

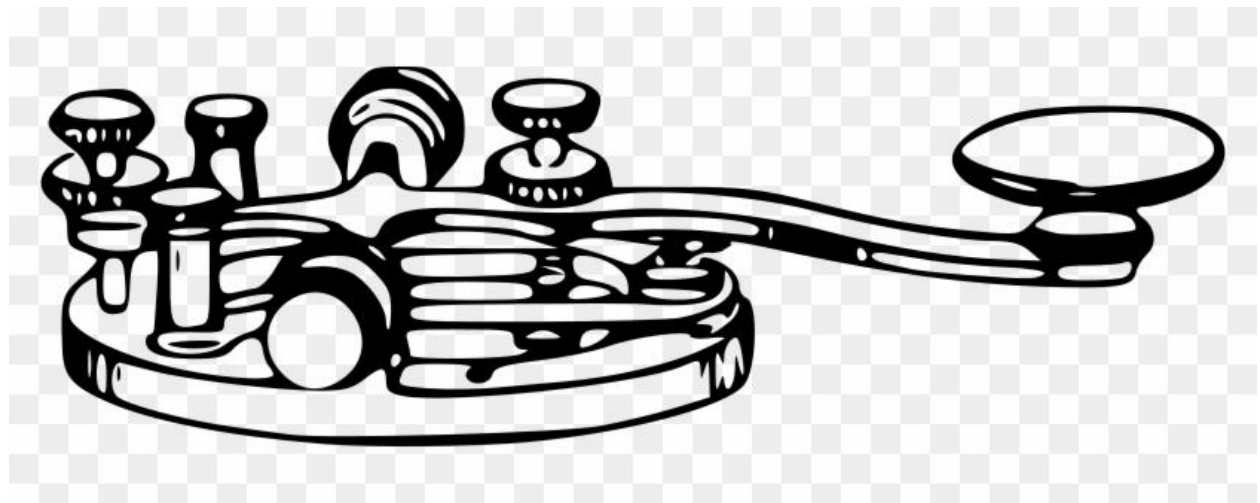


QSA-5

Marin Amateur Radio Society Monthly Newsletter

Established 1933

September, 2022



When all else fails, you can count on Amateur Radio

In Memory of Doug Slusher KF6AKU



A Message from Rich Slusher:

July 31, 2022

To The Officers and Members of the Marin Amateur Radio Society:

I wish to express my heartfelt gratitude and appreciation for all aid and comfort that you have given to me since Doug's passing.

First, thank you for the use of the clubhouse and catering for Doug's Celebration of Life on July 10th. I have received many favorable comments from in-house and ZOOM attendees and was overwhelmed by all the stories of Doug that were shared, some of which I had forgotten about. I hope that the Celebration was as cathartic for all of you as it was for me and my family. It couldn't have been pulled off without the Club's considerable help.

Second, I wish to express my infinite gratitude for all of the club members, especially Curtis, who spent several weekend days coming over to American Canyon and removing the considerable amount of radio equipment in Doug's garage and transporting it to the clubhouse. I hope a lot of that equipment will provide value to the Club. There were many days in the last two months when I sat alone in the garage and could not envision how all of that equipment could ever be cleared out. Thanks to the volunteers' considerable efforts, I was able to turn the keys over to the landlord on July 31st and be out of the house.

During the equipment removal process, a very important briefcase was unearthed (almost literally) by Greg Dupree (KU1C) that contained the original version of Doug's Will and Trust. I had literally torn the house apart looking for these documents and had given up hope of ever finding them. Their discovery has saved me months of time and considerable money, not to mention about 40 points off of my blood pressure. I nominate Greg to receive a MARS golden star pin at the annual awards banquet.

Your kindness, compassion, and hard work have been a Godsend to me and have provided comfort to me through my personal grieving process. It is very gratifying to be a part of a group that still holds dear the idea that the club is there not only to give support to the community, but to be there for each other in times of need. Thank you.

Sincerely,

Rich Slusher (KI6UIM)

From Our President:

September 10th will be our club picnic at Miwok Park 2200 Novato Blvd, Novato CA 94947. We will be there starting at 11 am although the food will be available around 12:30. I am looking forward to the picnic for a number of reasons. I have never been to Miwok Park, so I am curious about it as a venue. Not that I am all woo-woo about that kind of thing but in an earlier life I designed spaces, environments if you will in the theatre. In film and video recording the ambient sounds of an environment is referred to as the atmos short for atmosphere but the term atmos is often used to describe how the environment feels if you will. Sort of like terroir for people. I am also looking for the opportunity to see you in 3D. I only just saw that term used in that context recently. In the early days of the internet the term IRL (In Real Life) was used and then then unfortunately replaced with In Meat Space. When I was a kid the term Eyeball QSO was popular with a select group. Some of us also name checked the Blondie song *In the Flesh* (1976) to the describe an in-person meeting. I am also excited because at the picnic as opposed to other club events, I have no agenda or to do list. I can just hang out. I do want to remind you that I need a count of attendees by Friday 2 September so we can make sure we have enough supplies.

When I sat down to write this, I had intended to remind you about the picnic not a discourse on linguistics but that is what happens when I am left unsupervised.

September also starts the 4 quarter of 2022 that means that we need to start thinking about the end of the year. I for one will be term limited off the board, and I believe one or more of my fellows will also have to step down. The upside of this is that you will get better content in this space. That means we need some new faces on the board. If want to help steer the club's direction I recommend you consider running. Its free and you can help make this a better club. Board meetings are now done on zoom, so you don't even need to put on pants for the meetings. Let me know if you are interested. I also want to get your feedback on our Christmas celebration. Since the plague came, we have not done an in-person Christmas dinner. I am not sure we are ready now either. If we did, I expect we would limit attendance so there could be some distance since eating and masks don't really go together. Let me know your thoughts yes or no.
WA6UDS@W6SG.NET

73 de wa6uds

From the Editor:

It's September and the summer is in the rearview mirror. School is back in session and the Pandemic is finally becoming back page news! Things are looking up! I've started striping down the pages of the QSA-5 in preparation for some monthly articles suggested to me by readers of our club publication. I'll introduce and include these articles starting in October. I'll be the first to admit that I have trouble getting rid of things, be it electronics in my garage or items included within the pages of the QSA-5. Regarding the content of the QSA-5, I have trouble getting rid of articles because I worry that I'm getting rid of something that would be useful to the new club member.

My solution to this dilemma is to reintroduce specific articles periodically and to reach out to new members and ask them what they might want to see within the pages of this publication. I've only been involved in amateur radio for a few years, so I'm a newbie as well. I tend to read publications that cover the bare bone basics

of amateur radio. Of course, there are seasoned experts who read the QSA-5, and I certainly don't want to bore them.

In the end, I must make this publication of interest to both beginner and advanced radio operator. That's the plan I'm planning on employing from here on out. Thanks again for your contributions in terms of photographs and write ups. Without them, I'd be lost. I'm hoping to have my work schedule change so I can start attending our monthly meetings because they are a great source of information for the QSA-5. With that said, enjoy your September and our publication!

QSA-5Editor@w6sg.net



Remembering Doug Slusher KF6AKU

QSA-5 is going to keep this post up for one more issue because of Doug's enormous contributions to the Marin Amateur Radio Society. This piece, which I've read a few times, is very touching and was written by our club President, **Curtis Ardourel WA6UDS**

I met Doug Slusher KF6AKU back in the fall of 1970 in the electronics shop at Redwood high school. We were both freshmen and in the same section of first semester electronics with Truman Whorton WB6QFV SK as our teacher and as it turned out also our mentor. We immediately hit it off. We had similar family stories. Both of our fathers returned from serving in World War Two and used the GI bill to go to college. Both our fathers became teachers at about the same time and, had kids about the same time and of course lived in Marin. In spite of both being “nerds” we had different personalities. Doug was outgoing made friends easily, while I was more distant, and some would say aloof or perhaps shy. None the less we became lab partners in electronics and close friends. Doug’s family welcomed me into their home as if I were another one of their kids. His parents were the sweetest kindest folks you would be lucky enough to meet, and I was honored to be a part of scattering both his parents’ ashes. At that point I had the pleasure of meeting Doug’s brother Rich Slusher KI6UIM who is a member of our club.

Our teacher Mr. Whorton recognized something in both of us, maybe it was aptitude, maybe it was free labor. He asked us to help remodel the electronics lab. We built work bays with carpeted benches, built in test equipment, and trays for components used in lab exercises. Mr. Whorton was in the wood shop cutting out the plywood pieces which Doug, and I were assembling in the electronics lab. We reported to him that we had assembled the first one for his inspection. He gave our work a close inspection and asked about slight gaps in fit of the plywood sheets. Doug confessed that in order to get the trays of components to slide in and out we had used finishing nails as shims. He took this a teachable moment and disassembled all our work and reassembled it himself. Of course, the trays would not slide in and out. Doug and I triumphed when Mr. Whorton allowed that we would have to finishing nails as shims.

Redwood high school had a radio club WB6NVY, and Doug and I were both members. Our club held car washes and painted house numbers on curbs to fund TH6DXX beam and rotor and built a collapsible tower out of pipe sections that sat on the roof of our classroom. Our club did field day on a hilltop in Tiburon. Keep in mind that this was the early seventies, and we were a lot more lax about safety

then. We used a WWII vintage gas generator that would run for about five hours on a tank of gas. Its carburetor was such that once the engine was warm it would not restart unless it cooled for about half an hour. It also had a “muffler” made of steel pipe which at night glowed a dull red after an hour or so of running. Every four hours Doug and I took turns pouring gasoline into the running generator while the other stood back with a fire extinguisher in case of an accident. I would not let anyone do that now, but we were young and as I say it was a different time.

Doug and his brother Rich introduced me to car rallies. These were not the kind that involved a stopwatch but rather were more a succession of logic problems and observations of streets and signs. I was late to the party getting a driver’s license, and Doug essentially taught me how to drive on rallies. Doug, Rich, and I also wrote these rallies as a team. I had some of the happiest times of my life as the three of us would drive around, thinking up puzzles, looking for odd intersections, or street signs, and laughing at each other jokes or quoting Monty Python, Stan Freberg, Alan Sherman, and Jonathan Winters. The sort of rallies we wrote involved stapling 5” by 8” cards with reflective tape and number and letters on them about 8 feet up on telephone poles. Sometimes a resident on a street where our course ran would object to the rally, the rallyists, and the card. We would roll up on a heated discussion between a local and a rallyist. I would cower in the car while Doug would with grace and charm talk both parties back from the edge of coming to blows or tearing down the card. The price of gasoline eventually caused a decline in the number of available rallies although they still exist and during the pandemic Doug, Rich, and I ran as a team on zoom using google maps. Doug was the navigator; Rich was the brains of the team, and I was the comic relief. I will cherish those hours we spent together cooped up in a car or on zoom for the rest of my life.

Doug’s family loved the out of doors, camping, fishing, and exploring. They invited me along to their annual camping trip to Mt Shasta. I missed a few of the forty-nine years I was invited but was there for most of them. In the early years there were four or five families all camping together as years past it dwindled to just a few of us. My family was not outdoorsy, so I learned to camp and fish from Doug and his family. Some many of the things I love to do, I was fortunate to do with Doug and his family.

In 2007 as the economy worsened Doug hired me at the Marin Independent Journal in Technical Services. We did phones, IT, and repaired hardware. All in service of a paper that had to come out every day. Once again Doug educated me in the workings of a daily paper. There are few things quite as impressive as hearing the press run up to speed or watching the press switch from one roll of paper to another while printing at speed. Sadly, even then the newspaper business was beginning to decline, and Doug's department got smaller and smaller until it was just the two of us. During the budget process Doug came to me and said that our department was only budgeted for one person in the next year. He went on to tell me that he thought my software skills would be of more use to the paper than his skills. I did argue with him but he was adamant and he retired and allowed me to keep my job. That is pure Doug, always thinking of the other guy.

Back in high school Doug and I were members of the Amateur Communications Society which later merged with the Marin Amateur Radio Club to form the Marin Amateur Radio Society. Doug was part of the team that engineered that merger. While all that was going on I was living in New York City and not really involved in amateur radio except the odd 2-meter QSO in NYC. I joined the new Marin Amateur Radio Society and in 2009 Doug asked if I would run for a seat on the board. I said OK and to my surprise I was elected. At the January meeting of the board, the board as a whole elects the officers and they saw fit to elect me president. Once again Doug led me to something I was proud to do and better able to do because of his mentorship.

I personally am not given to having a favorite anything. I could not tell you my favorite food, or movie, or book. Doug however always introduced me as his best friend. For knowing him and all the ways he has made my life better I cannot be prouder than to call him my best friend. I will miss him all the rest of my days. I will always aspire to be more like him. To quote Shakespeare as I am wont to do "He was a man, take him for all and all, I shall not look upon his like again"

New Members:

Tony Belli KN6RBL - San Rafael
David Sneed WD6L - Napa
Chris Bigall KC6ZKO - Rohnert Park
Benjamin J. Winston KM6ZEB - San Rafael
Sean Peisert KN6UHT - San Rafael

Next General Meeting: September 2nd, 2022





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

Marin Amateur Radio Society Board of Directors Meeting August 11th, 2022



Marin Amateur Radio Society Board of Directors Meeting 11 August 2022

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

Attendance:

President: Curtis Ardourel WA6UDS (1)

Director: Skip Fedanzo KJ6ARL (2)

Vice President: Tom Jordan KG6TCM (2)

Treasurer: Bruce Bartel N6VLB (1)

Director: Ken Brownfield AB6JR (2)

Director: Mark Klein KM6AOW (1) @7:43pm

Secretary/Trustee K6GWE Brian Cooley KB6EZX (1)

Trustee W6SG: Mitch Martin WU1Q

Adopt agenda: M/S/A

Approve minutes of: 14 July meeting M/S/A

Secretary's Report/Communications: Van insurance list is updated, and Brian will be touring some of our repeater sites with Milt soon, next few weeks.

Treasurer's Report: Latest report in most recent QSA-5

Committee and other Reports:

1. **Membership** – 144 | 94% Curtis has sent out two sets of reminders so far to people who have let their membership lapse. Curtis will change the QSA-5 password to lock out those who are no longer members.
2. **Facilities:** Skip KJ6ARL said he and Rob NZ6J repaired the rear clubhouse light to work again, are also working on some other lamp replacements soon. Inspected the original front folding doors and they seem to be leaking, will pursue installation of some new weather seals. The material received recently from Doug KF6AKU/SK estate is being gone through to both catalog and secure it in a locked cabinet when it has value. Skip reported that pricing for metal club asset tags would be around \$300-\$500. A discussion ensued about the efficacy of such tags and any expanded use they might have for gear that is also RCV/County related. Skip will do more research on more affordable options that still have serial asset numbers. Tom KG6TCM is putting together a work party to clean up around the property also with an eye to getting a bid to bamboo trimming, etc.
3. **Public Service:** Pam N6PDF reminded that 8/27 is Double Dipsea with a minor course change from previous runs. 9/17 is MCBC Adventure Revival. 9/24 is ZBC Dipsea Hike, the MDARC Firetrails 100k, event and Napa County ALS ride, all ham radio-supported events in the region.
4. **Technical:** Milt KM6ASI reported that the previously approved (see [July minutes](#)) new antenna for Tam West simulcast node has been

ordered but it needs to be fabricated so the lead time will be a few weeks.

5. **VOAD/RCV:** Skip KJ6ARL reported that the effort to draft and submit for recognition the declaration of RCV as an official program of Marin County is underway, though with some trepidation about its pace of progress through channels. Also, the RCV Planning Committee is working on a drill that will better replicate the conditions of an actual deployment to, hopefully be done by October.
6. **VE Testing:** Ken AB6JR reported that the next test will be on 10/8, applicant count still pending. Tom said he spoke to a ranger at Stafford Lake during Marin Century who indicated that he might want to get back into ham radio, reinvigorating the idea for a Public Safety Day when we hold a test session just for public service personnel.
7. **NBAM:** Michael K6MLF reported:
 - a. He is open to comments on the [new NBAM site](#) that the board might offer.
 - b. Skip is soon to get a mesh node up at his Corte Madera QTH, especially important as he is a key interface person between NBAM and RCV's clients.
 - c. Bill Smith, site mgr. at San Pedro Ridge, was offered a repeater to replace one that has broken at his site, which he is considering. Michael also told Bill that we would like to donate some extra mesh nodes for use at Pedro, aiming in additional needed directions. These would be a clean donation, not a gear loan. These efforts are supportive of good diplomacy between his efforts and ours.

- d. A trip was made to Sea Ranch recently for some NBAM personnel to meet with the [Anchor Bay radio club](#) as well as with local volunteer fire and a [TSRA](#) member. Some gear was left for them to test. Much was learned about how we communicate the benefits and technicalities of mesh to future partners.
- e. The NBAM Steering Cmte has a meeting coming up on Saturday to go over the system project Gantt chart. Working on a variety of new nodes at various stages of completion: Dillon Beach, Sonoma Mtn., English Hill, Big Rock, Wolfback Ridge, and maybe San Pedro, per notes above.
- f. NBAM personnel at scheduled to appear at the [Valley of Moon club picnic](#) in Sept to do an NBAM evangelism session.
- g. Each of the sites in this project are managed by people who have varying interests, demands, and needs to get them to an active state. Continuous contact and diplomacy is proving to be key as each new site partner has a different POV on their role in the project.
- h. The term of the current build out team ends at the end of February, 2023 at which point Michael will hope to have new personnel ready to take over the work that he and the other core NBAM team have been doing.

Tom KG6TCM asked that training the next wave of mesh evangelists be done in a way that Michael's learnings and ability can be transferred. Tim also asked if NBAM could provide some sort of informational materials for the coming picnic.

- 8. **MARS Club Picnic, 10 September:** A consensus was reached that we will do a hybrid of catered lunches as well as offering support for cooking on site by those who are interested. Tom reported that the site has been reserved (Miwok Park) and a logistical spreadsheet established. Curtis asked to share the spreadsheet and that he will

formally ask club members to RSVP, specify the type of lunch they would want, and if they wish to help with event production. He also reminded us that we have had 20-30 people attend in recent past years, based on which he will start a conversation with our caterer to reserve some capacity on their end. Bruce N6VLB asked what costs we would charge for those enjoying a catered meal, which has been covered by the club over the last handful of pre-COVID years as a de facto benefit of membership. Bruce urged us to make an appeal for donations at the picnic to help defray the costs for catering, site rental, and food we supply; The cost of the annual “fee meal” events we offer probably well exceeds the membership fee paid by those attending and he would like to see that at least be neutral.

Old Business:

1. **Frequency coordination:** *(Dropping this header going forward until there is further news.)*
2. **Drainage:** Skip says work is progressing on aspects of the project to get our drainage pipes and downspouts working cohesively. *(Per request of Tom This header will include “Fire Prevention” as of the next meeting.)*
3. **Transfer from Doug**
 - a. Site Keys
 - i. Coordinating with Milt on identification of some keys: Curtis and Milt will meet this Sat. at the clubhouse to complete.
 - ii. Who should hold keys: We need someone local and highly available to hold Doug’s set of keys.
 - b. Radio Keys: For old Motorola and GE radios that we no longer use but might cross our workbench.
 - c. Card Key System: See below for the list of all currently authorized, to be deauthorized, and reasoning for them having a key card.

- d. Laptops: A large number of laptops from Doug's estate are being processed by Curtis with an eye to locating programming software on each that may still be relevant and/or essential. Steve KB6HOH mentioned that some may contain essential DOS programs that might not be very evident when the machine is assessed in Windows.
 - e. Club Assets/Other assets from Doug's House.
4. **Field Day** – Still settling accounts from this event with REDXA. In progress, per Curtis.

New Business:

- 1. W6SG Trustee conversation to be taken up in exec session.

Good of the Order N/A

Executive Session See [separate minutes](#).

Adjourn 21:43

Next Regular Meeting 2 September 2022.

Next Board Meeting 8 September 2022

Mark KM6AOW will be absent.

B. *Cooley* Club Secretary, K6EZX

ADDENDUM: Clubhouse key card list

User ID	Username	Reason
1	Doug Slusher <i>(to deactivate)</i>	
2	Curtis Ardourel	Board
3	Milt Hyams	Technical
	Mitch Martin	
4	<i>(deactivated)</i>	
5	Marc Bruvy	Sunday access
	Doug Slusher II <i>(to deactivate)</i>	
6		
8	Anthony Fedanzo	Board
10	Michael Fischer	NBAM
11	Rob Rowlands	NBAM, Public Service
	Angry Cal <i>(to deactivate)</i>	
12		
	Milt Hyams	
13	<i>(duplicate)</i>	Technical
	Steve Fischer <i>(to deactivate)</i>	
14		
16	Temp2 <i>(to deactivate)</i>	
17	Bruce Bartel	Board
18	Steve Toquinto	Various services
19	Ken Brownfield	Board
20	Brian Cooley	Board, K6GWE Trustee
21	Beau <i>(to deactivate)</i>	
	Curtis Ardourel	
22	<i>(backup)</i>	Board
23	Francis Stromyer	Sunday access

**Marin Amateur Radio Club
Balance Sheet Comparison
As of August 31, 2022**

AS OF AUG 31, 2022, AS OF AUG 31, 2021 (PY)

ASSETS

Current Assets

Bank Accounts

B of A Building account - 8795	6,701.43	2,346.63
B of A General account - 4328	8,425.94	13,433.13
CD	25,000.00	25,000.00
Money Market	5,000.00	5,000.00
Total Bank Accounts	\$45,127.37	\$45,779.76
Other Current Assets		
Uncategorized Asset	-35.00	
Total Other Current Assets	\$ -35.00	\$0.00
Total Current Assets	\$45,092.37	\$45,779.76
Fixed Assets		
Clubhouse - 27 Shell Rd. MV	58,983.00	58,983.00
Total Fixed Assets	\$58,983.00	\$58,983.00
TOTAL ASSETS	\$104,075.37	\$104,762.76

LIABILITIES AND EQUITY

Liabilities

Total Liabilities

Equity

Opening Balance Net Assets	124,400.00	124,400.00
Retained Earnings	-22,228.35	-22,636.76
Net Income	1,903.72	2,999.52
Total Equity	\$104,075.37	\$104,762.76
TOTAL LIABILITIES AND EQUITY	\$104,075.37	\$104,762.76

Marin Amateur Radio Club
Profit and Loss
January - August, 2022

	TOTAL	
	JAN - AUG, 2022	JAN - AUG, 2021 (PY YTD)
Income		
Auction Income	60.00	
Donations	118.98	262.03
Dues	6,305.00	6,676.47
Field day refund	625.00	
Income from club activities	90.00	828.00
Public Service Refund	450.00	475.00
Rent	21,000.00	20,025.00
Sales of Product Income	24.69	20.32
Total Income	\$28,923.67	\$28,286.82
GROSS PROFIT	\$28,923.67	\$28,286.82
 Expenses		
Awards		
Car & Truck	54.49	1,075.83
Equipment < \$2,500		322.79
Field day	2,184.67	
Food	850.00	1,536.00
Garbage	334.88	236.40
Insurance	3,762.25	3,229.02
Legal & Professional Services	575.00	25.00
Meals	2,378.00	
Public Service Expense	841.09	
Reimbursable Expenses	4,455.12	3,674.95
Rent & Lease		150.00
Repair & Maintenance	1,237.50	2,281.66
Repairs & Maintenance	2,880.00	895.18
Repeater		-177.27
Taxes & Licenses	3,950.64	4,550.56
Telephone	94.47	93.24

Uncategorized Expense	275.00	965.00
Utilities	2,407.58	5,442.53
VE Session	215.00	188.00
Water	524.26	511.04
Total Expenses	\$27,019.95	\$25,287.30
NET OPERATING INCOME	\$1,903.72	\$2,999.52
NET INCOME	\$1,903.72	\$2,999.52

Questions and Answers

This section of our publication is dedicated to any questions you have. If there is something you need or a problem you cannot solve, this is the place to seek assistance. Who provides the answers? Readers of the QSA-5 publication! Since we have not received any new questions for a few months, we are leaving a question up from March (hopefully we'll get a few new questions in soon):

This question was not directly sent to the QSA-5 Question and Answer section of the newsletter, I believe that the subject matter warrants our attention. This is the email I received from Steve & Melanie Kramme KD6KXT & KD6KXS:

Hello, my wife and I are licensed HAMs in Novato and have not been on the air due to location and HOA issues. We would, however, like to install a VHF / UHF radio into our truck camper. I am seeking advice regarding which brand and features that they have that would best fill the needs of our local area and when camping. I contacted you in hopes that you could put me in touch with someone in the club that could answer my questions. I was thinking maybe meeting someplace for coffee. Some time ago I attended meetings in Mill Valley, but my membership has lapsed. I know that with COVID concerns there may still not be any in person club meetings.

You can reach them via email at: skramme@gmail.com

Here are some links to get you started regarding an antenna mount for your rig

and vehicle. Hopefully, some of our club members will follow up via email!

Here's a link to the Radio Reference website's forum page that discusses this question:

<https://forums.radioreference.com/threads/best-place-to-mount-dual-band-antenna-on-pickup-truck.324814/>

Here is a page dedicated to mobile antenna mounting from Comet Antenna:

<https://cometantenna.com/land-mobile/no-holes-mobile-mount/mobile-mount-faqs/>

This final link comes from KV5R and is nicely detailed and explains the subject clearly.

<https://kv5r.com/ham-radio/mobile-antenna-placement/>

LIFE IS SIMPLE



Marin Amateur Radio Society News

2022 MARS Picnic

Our club picnic this year will take place on Saturday 10 September at Miwok Park 2200 Novato Blvd, Novato CA 94947 starting at 11 am. If you plan to attend, please let us know by emailing to rsvp@w6sg.net so we can make sure we have enough supplies.



Picnic details

Our 2021 picnic was combined with the Public Service Luncheon and

although the 2022 Public Service event included a catered meal at the Marin Rod and Gun Club, we wanted to have the picnic as a separate event. For the previous few years, the club provided burgers and dogs as well as the usual condiments, asking attendees to bring side dishes or desserts. In the years before that the club supplied a hot grill and condiments but attendees were asked to bring their own protean.

This year as with so many public gatherings during the plague we are trying something new. As some of us are sensitive about germs we will be supplying box lunches as we did at the Public Service Luncheon while at the same time, we will have the grill available for those want their protean hot off the barbi. The picnic won't have a fee, but box lunches do cost more than burgers and dogs, so if you are inclined there will be a jar for you to contribute to the cost. Your contribution is optional. You are also encouraged to bring salads and or desserts.

Miwok Park has a small parking area however members who live in the area tell me that parking on the street around the park is available. I am excited about another face-to-face meeting and about bringing back this fun event. I would also encourage those of you who have go box stations to set up at the park and see if we can make some contacts.

I hope to see you there. If you have questions let me know at WA6UDS@W6SG.NET and remember to rsvp at rsvp@w6sg.net

Curtis WA6UDS

Clean Up Party

One of the many good things amateur radio operators do is help each other. When a Ham needs assistance, there are always plenty of other Hams willing to roll up their sleeves and get busy working! Don Engler had a rather large antenna and mast he needed removing and our Critical Mass colleagues Tom Jordan and Dan Sobel for volunteered to help remove Don Engler's antenna and sturdy mast! It took an hour and a half to get it done, leaving Don relieved and his wife very happy. Thank you Michael Fischer **K6MLF** for providing the information and photograph.



Radio Field Event

On Sunday, August 21st, an HF field event was held. Here's a write up of the event from Steve Wilson:

the past 5 years the Sun has gone through the minimum phase of its 11-year sunspot cycle. Hams lost interest in HF radio, mostly because it didn't work. This year the Sun has come back to life, with lots of sunspot activity, nearly 2 years ahead of predictions. The increased solar radiation on the earth's ionosphere has made High Frequency radio propagation possible again.

Even during the worst of the low sunspot cycle the Marin RACES hams were still able to communicate using NVIS technology on the HF bands.

NVIS stands for Near Vertical Incident Skywave, a technique widely used by the military around the world and a perfect match for emergency communication in mountainous terrain like Marin County. It is a technique of directing signals, of the right frequency, straight up 200 miles to be reflected back to earth and cover a radius of 300 to 500 miles.

The Marin RACES group has maintained a NVIS network for the past 15+ years as backup communication in case the VHF-UHF repeaters fail and as means of establishing portable field communications anywhere in Marin on short notice. RACES members have built "**Go Boxes**", grab-and-go radio stations that can be taken anywhere in the County that are able to talk around the County, the Bay Area, and the State. These kits include a radio, power AC and DC power supplies and antennas as well as operator necessities. You seldom get a chance to see **go boxes** in the field, normally they don't exist until deployed, and then they would all be in different places.

This event will pull together a group of operators with their go kits and it is your chance to see all the different creative solutions to putting together a field radio station.

If you are considering getting into HF radio for fun or emergency communication, the new miniature radio transceivers, that are now available, make it possible to put a full radio station in your pack and hit the trail for POTA ("Parks On The Air"), SOTA ("Summits On the Air"), BOTA - ("Boats on the Air"), DX expeditions or emergency communication for activities in the wild.

We will be setting up several field stations, with the target frequencies of 7.228 LSB, 3.895 LSB and other bands.

Construction will begin at 9:00 AM with a target of 10:00 to be on the air.

Everyone is welcome, if you have a Go Kit or Field Radio, bring it along to share, We will be talking about making and setting up antennas for field use. If you would like to join us over the air from home or afar look for us on 7.228, 3.895.







Hamfest 2022

One of the things radio clubs do, in addition to supporting themselves and their community, is supporting other clubs around their area or region. With that said, we would like to support the Western Placer Amateur Radio Club and their fantastic event. Here is the official announcement:

Greetings from the Western Placer Amateur Radio Club:

Saturday, September 17th is the big day – the last Hamfest of the year in the Sacramento Valley! Gates open at 7:00 AM for buyers, 6:00 AM for sellers in downtown Lincoln in McBean Park. Mark it on your calendar. Don't forget. Just 7 weeks away. Lots of free parking. \$10 vendor spots. Record busting buyers and sellers every year. Great drawing prizes! Below is the event flyer (QSA-5 note: It got slightly butchered in translation, but the information is all there). Please distribute to your local clubs and friends. You don't want to miss this one! See you there.

73,

Michael Buck
K6BUK
WPARC Secretary/Treasurer
916.765.5910



Sixteenth Annual

Sacramento Valley Hamfest!

***Hi-Tech Saturday, Sept 17, 2022,
Liquidators 0700 to 1200 Hours***



**Presented by Western Placer Amateur Radio Club 65
McBean Park Dr. (Hwy. 193) Lincoln CA Bandstand**

Parking Lot



Lots of Good Stuff!



Drawing Prizes!



Vendor Setup 0600



Buy and Sell



**Ham Radio Related Stuff Only
No Inflation - Same price every year!
\$10 per space-Approximately 9' x 12'**

Bring Your Own Tables Hamfest Info at WWW.WPARC.US



Talk-in Frequency



147.300 (+) 67 Hz

Critical Mass Event

For the first (2-meter) hour, we 10 hams got to practice the phonetic alphabet and practice our radio protocol in a controlled net with net control (thanks, Warren and Charlie) and four remote stations. Lots of inventive traffic involving a taco truck, a doughnut truck and a bagel truck. The latter was placed out of service due to a lack of cream cheese. We checked into the Sunday morning MARS net, hosted by genial (but very tired) Steve KB6HOH. We had two new visitors, Charlie Eddy KN7QOV from the Southern Marin Fire Dept radio team and Kathy Funke-Spicher KM6URP from the Sonoma ACS South County Unit.

Then we all hiked several hundred yards down to the very impressive HF setup on a not-grassy knoll and received an erudite lecture on antenna design by Steve W6SDY, some freebie antenna parts from Jerry WA6BXV and a wide variety of antenna and HF go-box designs. Thanks to all who invested a LOT of time, effort and thought into setting up a wonderful HF demo. The attached photos only scratch the surface of the stations on display. I saw Rob NZ6J taking photos, so maybe he will post some of the HF setups.

In total, we had almost 20 hams engaged in real-time radio practice. A Sunday morning well spent.

Next month James Renney KI6RGP has the hosting duty--you will hear from him about his planned agenda.

Thanks to all!

Cordially,

Michael K6MLF









How Critical Mass Started

The QSA-5 often reports on critical mass events in the Bay Area. While the QSA-5 has provided the “what is” regarding critical mass, we had not given you the “how” of the story, as in how critical mass started. Thanks to Michael Fischer, who forwarded this piece, you can now learn about the founding of this crucial service.

First written by AA6SF - SK - April 24, 2012)

Way back in early 2010, I was sitting at home looking at my HT radio that hadn't needed charging in some time. Since I got my license in January 2009 (Technician & call sign KI6NYQ), I had taken all the HCT (Ham Communication Team) classes

offered by SF NERT and many emcomm classes offered by Santa Clara County ARES/RACES, even participated in their drills, volunteered as a radio operator for Bay to Breakers, SF Marathon, SF Nike Marathon, joined SF ACS; but I still did not feel like I knew that much about my radio and emergency communications and needed more radio practice opportunities.

I came to the realization that here in San Francisco there were few opportunities to learn more about my radio, simple UHF/VHF radio communications and few opportunities to practice using my dual band HT.

I decided to start a radio practice group. I thought I would gather together other ham radio operators to learn and practice with them and help them to learn and practice— about simple UHF/VHF radio communications. For weeks I scouted many venues in San Francisco and chose Spreckels Lake in Golden Gate Park. I announced the radio practice at the end of weekly ham nets, handed out announcements at an ACS meeting and an SFARC meeting.

Two of my best friends, Jan WB6SPX and Jim KI6RYE, said they would help and we three met over a nice bottle of red wine at Jim's house to work out (loosely) the details of the first practice. (Better than a garage in Los Altos.) I told them I had a name for the radio practice: "The 2 Meter Critical Mass Amateur Radio Practice".

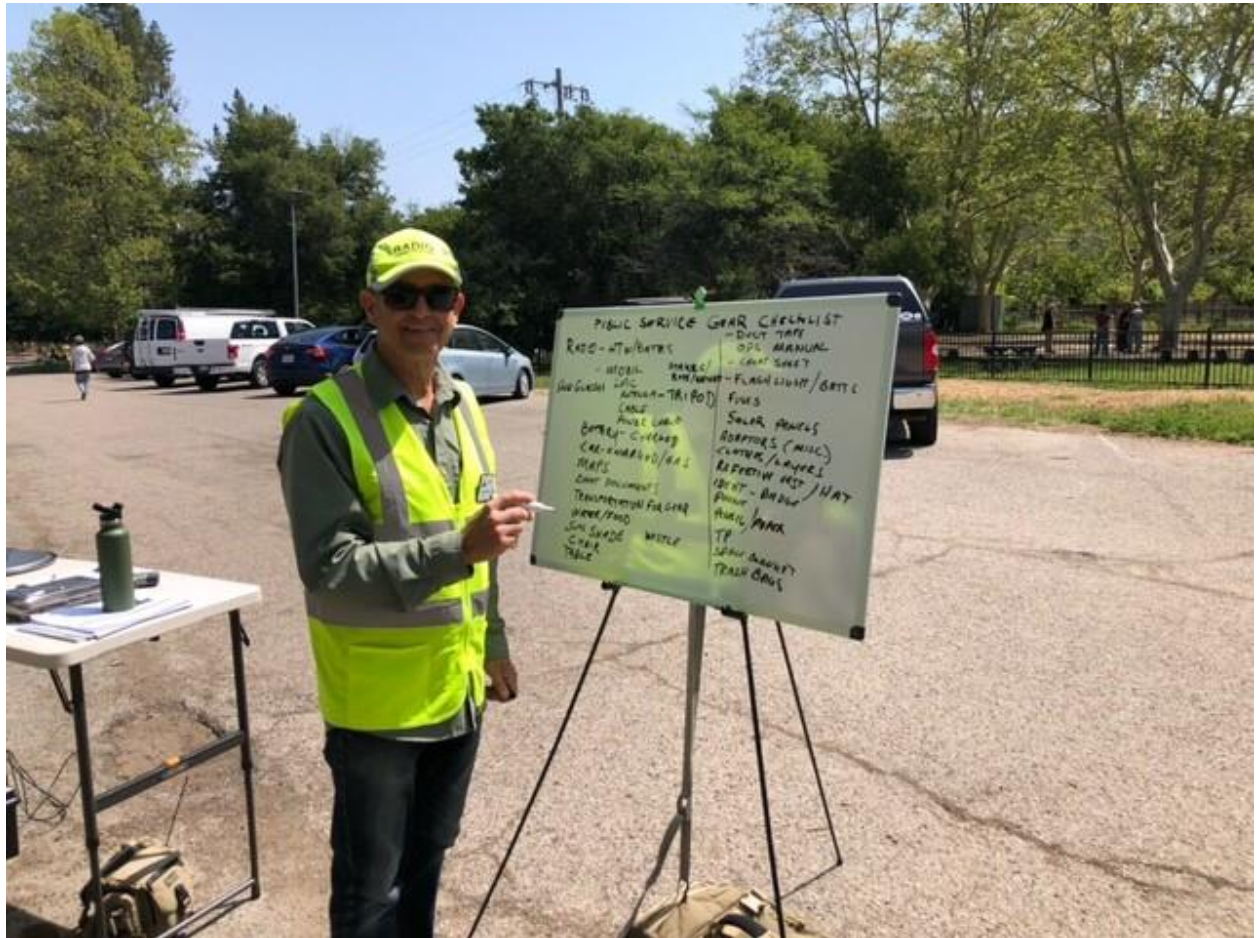
On July 10, 2010, the first 2 Meter Critical Mass Amateur Radio Practice took place from 1000 hours to 1200 hours at Spreckels Lake in Golden Gate Park.

Twenty (20) hams were in attendance. Imagine that!

We talked on our radios. Some had trouble with Tone, Tone Frequency, offsets, phonetics, low battery power. There were lots of questions and the Elmers answered them.

I learned a lot that day. Exactly what I had wanted. Since then, when we meet, we continue to talk on our radios, solve problems and learn new things about our radios. I have learned something every time we met. Only once a month. Only two hours from 1000 to 1200 hours on a Saturday. Where else can you go in the city to learn about ham radio and help others learn? If you know of another place for radio practice, please tell me.

Thank you Peter McElmury AA6SF-SK for developing this for our community. We





Meshing at Muir Beach

Here's a report from another MESH event recently held by the Marin Amateur Radio Society. The report comes to us via email from Michael Fischer: "Logging Ridge to Bridge participants on the same "live" spreadsheet that was being updated at Tennessee Valley and at net control. The Mesh enabled all of us to see the real-time progress of the event. To connect the three locations, Rob biked up to place two portable mesh nodes that linked the three points to the larger Bay Area Mesh. Bob Salter enabled the spreadsheet which was populated with the roster by Bay Area Ridge Council staff. It worked just fine - even in the face of stiff winds - which required some creative adjustments." Here are some photographs from the event:







July 9th, 2022, VE Test Session Report

The Marin Amateur Radio Society held another Volunteer Examination session on July 9th, 2022. One of the reasons the number of amateur radio operators grows each year is because of the dedicated work of Volunteer Examiners. **Ken AB6JR** and his team of Volunteer Examiners did a great job of testing new licensees and individuals upgrading their current licenses. Those who sat for their license exams on the 9th, had a seamless experience. It is extremely important to run a problem

free, smooth testing session because the VE program has a great responsibility to both the examinees and the FCC. As always, Ken and his team did a brilliant job. Here is the final report from Ken regarding the July 9th testing session:

Hello All,

Thank you all for being on the MARS VE team. We had a good VE session and one individual hit the trifecta, passing all three class exams.

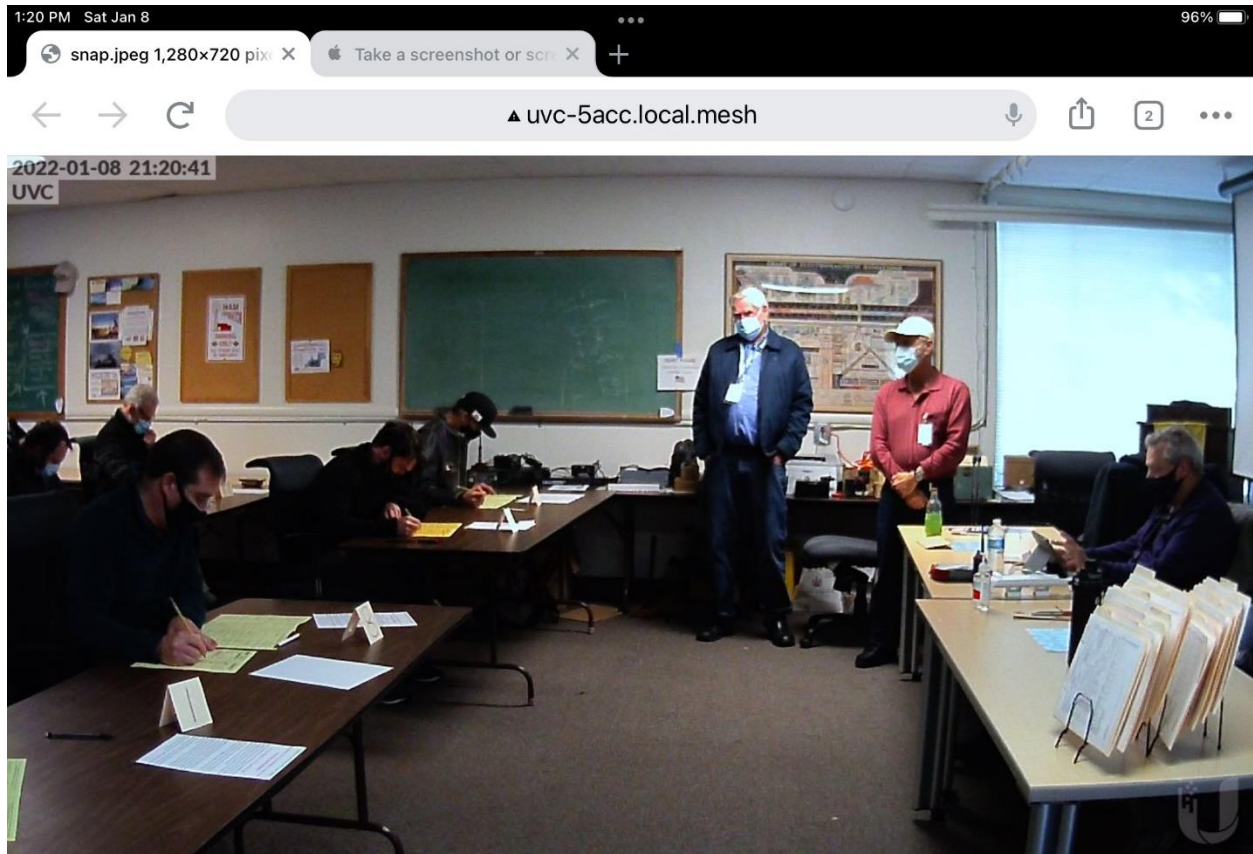
At one time we had 8 applicants that was reduced to 5 due to cancellations. Our applicant pool was distributed to one each from San Francisco, Salinas, Santa Rosa, Alameda, and Mill Valley. The "trifecta winner" was from Alameda. Santa Rosa Has a new General, Salinas has a new Extra, San Francisco has a new Tech and Mill Valley has a new Tech.

The paperwork was uploaded to the ARRL which will be passed on to the FCC Monday morning. The FCC will process the upgrades by close of business Monday. The new Tech licenses will depend on how fast the FCC receives payment from the new Hams. Experience so far says it takes two to three days.

The Next scheduled exam will be 10-8-22.

73

Ken



Here's a photograph of our Volunteer Examination test session

2022 Exam Fee Updates

As of **April 19th, 2022**, the licensing fee you pay upon sitting for your amateur radio examine will be \$35.00. The new Amateur Radio license application fees will take effect on **April 19, 2022**. The Federal Communications Commission's authority to impose and collect fees is mandated by Congress.

The \$35 application fee, when it becomes effective on April 19, will apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications. The fee will be per application.

Administrative updates, such as a change of name, mailing or email address, will

be exempt from fees.

VECs and Volunteer Examiner (VE) teams will not have to collect the \$35 fee at exam sessions. Once the FCC application fee takes effect, new and upgrade applicants will pay the \$15 exam session fee to the ARRL VE team as usual, and pay the \$35 application fee directly to the FCC by using the CORES FRN Registration system ([CORES - Login](#)).

When the FCC receives the examination information from the VEC, it will email a link with payment instructions to each successful candidate who then will have **10 calendar days** from the date of the email to pay. After the fee is paid and the FCC has processed an application, examinees will receive a second email from the FCC with a link to their official license. The link will be good for 30 days.

Additionally, the FCC stated that applications processed and dismissed will not be entitled to a refund. This includes vanity requests where the applicant does not receive the requested call sign.

The FCC published the notice in the Federal Register on March 23, 2022, stating that the amateur radio application fees, including those associated with Form 605 application filings, would become effective on April 19, 2022.

Further news and instructions will follow as the FCC releases them.

Ken AB6JR and his team of volunteer examiners has sent three dates to the ARRL for examination sessions. Those dates are Jan 8, April 9, July 9, and Oct 8, 2022. The testing sessions will start at 1:00 PM and will take place at the Marin Amateur Radio Society's clubhouse. Ken noted that the club is not restricted in the number of exam sessions taking place, meaning more could be added if need be.

There's been some discussion about possible evening examination sessions as well. Ken has also requested some information regarding do online exams, which would extend the scope of the VE team's abilities. **Jim Saltzgaber KM6WWY**, has volunteered to take the position of Assistant Lead Examiner, should anything

happen to the lead examiner, Ken.

2022 is going to be a great year for the club's VE program! Again, a big thank you to Ken and his VE team for bringing new amateur radio operators in the fold. You can only grow interest in an endeavor by increasing the number of people involved. Anyone who has VE credentials and wants to help should contact Ken.

Wondering About Babble Class?

Have you ever had a radio related problem and after searching around the world wide web, found yourself frustrated and confused? Have you ever wished there was a place you could go to sit around and talk about all things ham radio? Your prayers have been answered!

The Marin Amateur Radio Society holds a weekly babble study class on Sunday mornings at our club house in Mill Valley. Here's what Germaine had to say about one of our babble classes:

Success!

The radio received Francis' transmission and in turn will transmit at 100W. It looks like I just need to clean up the effects of the saltwater environment the radio lived in for a good 20 years. (I don't think I have a photo of me in action at the nav station.) Thank you so much, Jan, and also for bringing the pastries. Thank you to the rest of the Babble class for the antenna tips and . . . who was it that finally got that fuse holder open? It was passed around like an offering basket.

Tom is very impressed with my new badge so thank you for wrangling that, Michael. I will show it off at the family zoom blab fest with my 91-year-old dad.

Take care, Germaine

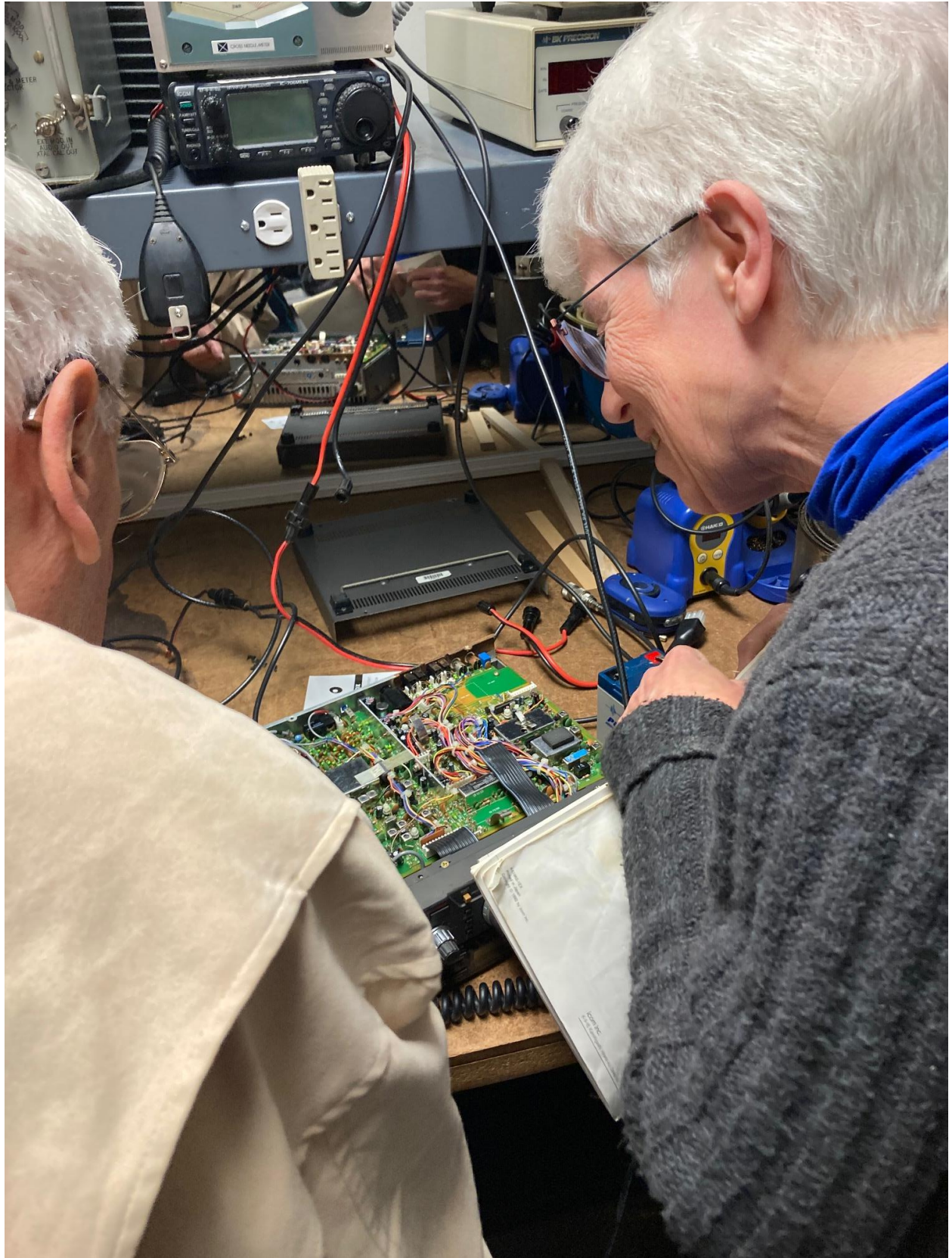
You can join in the fun and learn something you probably didn't know from our club members. Here are some photographs of the last few babble classes:











NBAM North Bay Area Mesh

New Backup Emergency Communication Network for Marin and Sonoma

The Marin Amateur Radio Society has received a grant of \$92,000 to install a microwave “mesh” network in Marin and Sonoma Counties. The mesh network, utilizing microwave frequencies allocated to amateur radio, will provide an alternative to the internet, should power outages or other events render the internet unusable. It is also intended to provide an important means of disaster communication with community-based organizations, such as food banks, in underserved and rural communities.

The grant was made by Amateur Radio Digital Communications, a Seattle-based nonprofit funded by proceeds from the sale of microwave frequencies to cellular telephone providers.

The Marin-Sonoma network, called NBAM (North Bay Area Mesh) is connected to the already-established BAM (Bay Area Mesh) which serves the emergency operations centers of San Francisco, San Mateo, and Alameda Counties. There is a parallel effort in Contra Costa County. The long-term objective is to provide a statewide communications network, operated by ham radio volunteers, that will provide a robust backup to existing means of communication among the various Emergency Operations Centers used by police and fire agencies in each county.

Using off-the-shelf low-power microwave antennas, NBAM will identify and install key nodes on hilltop locations up the US101 corridor from the Golden Gate Bridge north to Healdsburg and beyond. On the coast, the nodes will provide service to the rural communities of Tomales Bay, Bodega Bay, Timber Cove and up to The Sea Ranch. The Marin Amateur Radio Society will partner with—and provide equipment and training to—other radio clubs in each of the two corridors to place, maintain and utilize the mesh network.

BAM is working closely with the Sheriff's Departments in both counties. The Marin Amateur Radio Society has been an active nonprofit amateur radio Club since the 1930s with its own clubhouse (a retired fire station) in Mill Valley. Its FCC-licensed volunteers provide communications support to a dozen bicycle rides and footraces—including the fabled Dipsea—each year.

Quote from Tom Jordan, Emergency Management Coordinator or Rob Ireson, Chief Radio Officer, Marin County Sheriff's Auxiliary Communications Service: "The mesh will provide us with another redundant means of emergency communications—in a disaster, redundancy spells resilience."

Quote from Dan Ethan, Chief Radio Officer, Sonoma County Sheriff's Auxiliary Communications Service: "The importance of establishing alternative methods and modes of high-speed reliable communication between the North Bay Counties is more important now than ever before."

Quote from Curtis Ardourel, President, Marin Amateur Radio Society:

Quote from Kristen McIntyre, Pacific Division Director, national Amateur Radio Relay League: "Mesh networks like this are both a way to offer resilient communications during emergencies and a platform to further explore the development of mesh technology on the amateur radio bands."

Contact in Sonoma County: Jeff Young KM6Y 707 322 3221 Jeff.KM6Y@gmail.com

Contact in Marin County: Michael Fischer K6MLF 415 519 2201
michaelfischer149@gmail.com

Here are some photographs from an event held on April 17 in which the mesh connection was set up and tested. The network ran from Wolfback to Tennessee Valley to Coyote Ridge to Muir Beach.



NZ6J-NSM5-PubSvc-1

Location Not Available

[Help](#)

[Refresh](#)

[Mesh Status](#)

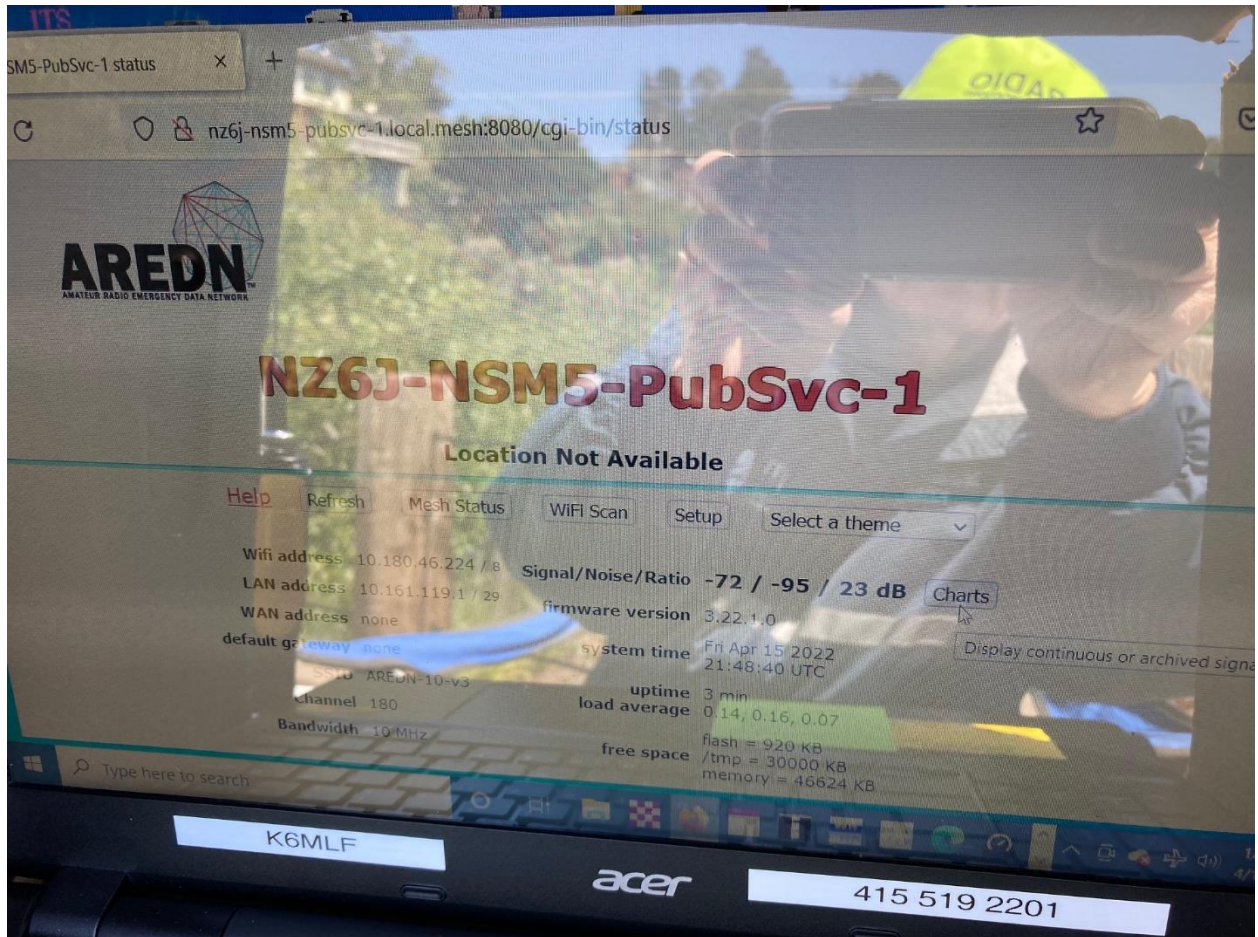
[WiFi Scan](#)

[Setup / LAN](#)

[Select a theme](#)

Wifi address	10.180.46.224 / 8	Signal/Noise/Ratio	-72 / -95 / 23 dB	Ch
LAN address	10.161.119.1 / 29	firmware version	3.22.1.0	
WAN address	none	system time	Fri Apr 15 2022 21:48:40 UTC	
default gateway	none	uptime	3 min	
SSID	AREDN-10-v3	load average	0.14, 0.16, 0.07	
Channel	180	free space	flash = 920 KB /tmp = 30000 KB memory = 46624 KB	
Bandwidth	10 MHz			









Portable MESH Unit

This is a portable MESH unit Michael Fischer and Rob Rowlands have been working on. It consists of a Ubiquity or TP-Link 5Ghz radio, Shanqiu POE battery, Cat5 cables and zip ties. Total cost about \$125-150, including the case. Here's a

link to the radio (just the radio) and below that is a photograph of the assembled unit:

https://www.amazon.com/TP-Link-300Mbps-dual-polarized-directional-CPE510/dp/B00N2RO63U/ref=sr_1_1?crid=3ARISN3BGBB7X&keywords=TP-Link%2B5Ghz%2Bradio&qid=1651681076&srefix=tp-link%2B5ghz%2Bradio%2Caps%2C1163&sr=8-1&th=1



Just add a camera tripod or use a fencepost. If operating from the node, add a laptop or tablet with battery backup for extended time.

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 story regards the Amateur Radio operators preparing for emergencies:

Ham radio operators practice for emergency: This comes from the Times online and is a decent article

<https://www.tnonline.com/20220627/ham-radio-operators-practice-for-emergency/>

Nuclear Power Plant Exercise Includes Amateur Radio Emergency Service: A Nuclear Power Plant is now bringing amateur radio operators in to help during an emergency:

<http://www.arrl.org/news/nuclear-power-plant-exercise-includes-amateur-radio-emergency-service>

QST Now Offering a Column for Radio Clubs: This should be of interest to all radio clubs:

<https://www.arrl.org/news/qst-now-offering-a-column-for-radio-clubs>

Amateur or ham radio club gathering in Enterprise: Thanks to the Enterprise Radio Club, amateur radio is growing in Alabama.

<https://www.wdhn.com/news/local-news/amateur-or-ham-radio-club-gathering->

[in-enterprise/](#)

Why is it called Ham Radio? This one comes from our own Anthony Fedanzo:

<https://fieldradio.org/why-is-it-called-ham-radio/>

Ham radio operators: A long-lasting technology: A nice piece on the endurance of amateur radio and its operators

<https://www.winknews.com/2022/06/24/ham-radio-operators-a-long-lasting-technology/>

ARES® Activated in Oklahoma for Tornado Clean-Up Communications: One of the roles that amateur radio plays is aiding our communities during disasters. Here's a piece from the ARRL:

<https://www.arrl.org/news/ares-activated-in-oklahoma-for-tornado-clean-up-communications>

Amateur radio is more than just a cool hobby: We all know just how cool amateur radio is. This article articulates what we already know, giving the rest of the world a glimpse of just what it is we do!

https://www.timesnews.net/living/features/amateur-radio-is-more-than-just-a-cool-hobby/article_02f01e08-c01a-11ec-bc34-bf15c0fb6937.html

Are decommissioned satellites susceptible to hackers? As someone who holds cyber security credentials, I can assure you that this is an interesting topic. This is a video but newsworthy.

<http://www.southgatearc.org/news/2022/april/are-decommissioned-satellites-susceptible-to-hackers.htm#.Ymcq-trMLIU>

Scientists hope to broadcast DNA and Earth's location for curious aliens: Well, this article speaks for itself. It's quite interesting.

https://www.theguardian.com/science/2022/apr/18/scientists-hope-to-broadcast-dna-and-earths-location-for-curious-aliens?CMP=Share_AndroidApp_Other

The Uncertain Future of Ham Radio: Is the future of amateur radio in peril? Will younger generations become involved and thus, carry ham radio into the future? This article looks at those very questions:

<https://sdr.news/military-sdr/the-uncertain-future-of-ham-radio-2/>

Amateur Radio News: This is an interesting site for those interested in listening to ham related Podcasts:

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

Our next two stories come from Rob Rowlands:

Russian Forces Invading Ukraine Using Civilian (Baofeng) Radios: Invading Russian forces in the Ukraine are using civilian radios such as the Baofeng UV-82. Here's a link to an image from Twitter:

https://twitter.com/CITeam_en/status/1498233574834716674

Here is another link from Reddit with an image of captured gear, including a Baofeng UV-82.

https://www.reddit.com/r/ukraine/comments/t2mj0i/they_really_are_using_baofeng_radios/

The last mile and the longest! Communications challenges February 2022: An interesting piece on the James Webb Space Telescope and the great complexities involved in communicating across vast distances in space.

https://docs.google.com/presentation/d/1VyQ2NRQhzpRPd7-qcyWB9TwFjFNwdV3XANcGoaLZgY0/edit#slide=id.g1152e6bfe65_0_1

Strong Winds Power Electric Fields in the Upper Atmosphere: From Ken AB6JR regarding electric fields in the upper atmosphere. Some interesting news from the NASA/Goddard Space Flight Center

<https://www.sciencedaily.com/releases/2021/11/211129172751.htm>

Is the Game Up for Baofeng in Europe? Yes, an article, thanks to Rob Rowland, about the radio many Hams love to hate. However, there's a review of the Baofeng GT-5R in the ARRL's QST January issue (page 39 Product Reviews).

<https://hackaday.com/2021/12/05/is-the-game-up-for-baofeng-in-europe/>

FCC Regulatory News

Here are the current regulatory changes and FCC news as it applies to Amateur Radio. This section of the QSA-5 newsletter was introduced last year. We will add new regulations and rules monthly, removing the older regulations and rules as new regulations/rules are introduced. As of the August 2021 issue of the QSA-5 newsletter, this list of FCC regulations and changes will be reduced, only covering this year's new regulations and rules. The newest regulations and changes will appear at the top of the list. Note that we are not able to cover every change the FCC has made this year within our publication:

FCC Hiring for High Frequency Direction Finding Center: Just in case you're looking for a career change:

<http://www.arrl.org/news/fcc-hiring-for-high-frequency-direction-finding-center>

FCC Legacy CORES System to be Retired: It seems that the FCC is retiring their CORES system:

<https://www.arrl.org/news/fcc-legacy-cores-system-to-be-retired>

FCC Proposes Record \$34,000 Fine for Alleged Interference and Unauthorized Transmissions During Idaho Wildfire: The FCC takes using unauthorized frequencies very seriously.

<http://www.arrl.org/news/fcc-proposes-record-34-000-fine-for-alleged-interference-and-unauthorized-transmissions-during-idaho>

FCC Has Resolved Technical Issues and Resumes Processing Amateur Radio License Applications: It's been a rough month for the FCC and their ability to process license applications:

<https://www.arrl.org/news/fcc-has-resolved-technical-issues-and-resumes-processing-amateur-radio-license-applications>

FCC Has Resumed Processing License Applications and Exam Session Files: The FCC was having some computer issues that put a temporary halt to their licensing and examination session fee processing. It appears the problem has been resolved:

<http://www.arrl.org/news/fcc-has-resumed-processing-license-applications-and-exam-session-files>

New FCC Application Fee Will Not Apply to Amateur Radio License Upgrades: This has been a confusing issue for many amateur radio operators looking to upgrade their licenses. This article should clear things up:

<http://www.arrl.org/news/new-fcc-application-fee-will-not-apply-to-amateur-radio-license-upgrades>

New Amateur Radio License Applications Fee to Become Effective April 19, 2022, The fee changes will be here soon. Read more:

<https://www.arrl.org/news/new-amateur-radio-license-applications-fee-to-become-effective-april-19-2022>

FCC: Amateur Service Licensees May Not Use Radio Equipment to Commit Criminal Acts: This really should not have to be repeated by the FCC is still sending this out:

<https://www.arrl.org/news/fcc-amateur-service-licensees-may-not-use-radio-equipment-to-commit-criminal-acts>

Two Radio Amateurs Appointed to the FCC Technological Advisory Council (TAC) FCC Chairwoman Jessica Rosenworcel named two prominent radio amateurs among her appointments to the FCC Technological Advisory Council:

<https://www.arrl.org/news/two-radio-amateurs-appointed-to-the-fcc-technological-advisory-council-tac>

FCC Seeks Attorney-Advisor for its Mobility Division. The Federal Communications Commission (FCC) has [posted](#) an opening for an attorney-advisor in the Mobility Division of its Wireless Telecommunications Bureau in Washington, DC:

<https://www.arrl.org/news/fcc-seeks-attorney-advisor-for-its-mobility-division>

FCC Orders Amateur Access to 3.5 GHz Band to “Sunset” It doesn't look for amateur access to the 3.5 GHz band. While many amateur radio operators, especially those who hold new licenses, may not be familiar with this band, some older license holders (especially those with specialty interests) use it. Here is the article from the ARRL:

<http://www.arrl.org/news/fcc-orders-amateur-access-to-3-5-ghz-band-to-sunset>

The FCC Headquarters Relocates: The government organization that regulates amateur radio is moving their headquarters. Here's a piece on the move from the ARRL:

<http://www.arrl.org/news/fcc-headquarters-relocates>

ARRL Urges Members to Join in Strongly Opposing FCC's Application Fees Proposal: The ARRL is asking their members to oppose the FCC application fee proposal. Here's the article:

<http://www.arrl.org/news/arrl-urges-members-to-join-in-strongly-opposing-fcc-s-application-fees-proposal>

FCC Grants 60-Day Waiver of Part 97 Data Rate Rules for Hurricane Relief Traffic: The FCC has granted a sixty-day waiver permitting radio amateurs handling hurricane relief communications on HF to use any protocol that would comply with the FCC's rules but for the symbol rate limits.

<https://www.arrl.org/news/fcc-grants-60-day-waiver-of-part-97-data-rate-rules-for-hurricane-relief-traffic>

FCC Investigating Alleged “Jamming” on 40 Meters:

Amateur radio operators have reported that there is some sort of signal jamming on the 40-meter band. Here is an article from the ARRL that covers the story in greater detail.

<https://www.arrl.org/news/fcc-investigating-alleged-jamming-on-40-meters>

Propagation News

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

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

<http://www.arrl.org/news/the-k7ra-solar-update-743>

DX.QSI Propagation:

A simple, straightforward website for propagation conditions that is regularly updated:

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

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

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

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

SunSpotWatch.com:

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

<http://sunspotwatch.com/>



DIY Radio References

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

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

Raspberry Pi devices. The best news of all is that these devices are inexpensive! I encourage you to check these websites out!

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Antenna building basics:

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

Good Reference for several antenna types:

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

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

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

Instructions for a VHF/UHF dual band antenna:

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

Build an HF dipole antenna:

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

Introduction to antennas:

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

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

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

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

An easy to build, single band CW kit:

<https://grp-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/>

DMR Radio

Creating a Codeplug

I've been using DMR radios for roughly one year. I was attracted to DMR because it allowed me to easily communicate, via radio, with people around the world. While there is no replacement for setting up an HF rig and antenna, it can be expensive and difficult, especially if you need to work with an HOA (homeowner's association). DMR gives amateur radio operators, especially those new to the hobby, an opportunity to rag chew around the globe!

In many ways, DMR is easier for global radio communication. You don't have to worry about mastering the use a bunch of knobs and buttons that fine tune your signal, as is the case with traditional, old-school HF rigs. However, the initial set up of a DMR radio can be daunting. You must first set up a WiFi hotspot and then create a codeplug. We examined setting up the WiFi connection last month. This month, we'll look at setting up a codeplug. What's a codeplug?

A codeplug is simply a name for a software file that gets uploaded to your radio. That's it. There is no great mystery to it! Well, in all honesty it is not as easy as conventional analog radio software used for a similar purpose.

Most new radios are programmed via a software program. You connect your radio to a computer, open the radio's software program and start entering frequency data. Each radio today comes with its own software for programming it. This can be a real pain if you own three or four radios, all with their own software program. Enter the CHIRP software program. CHIRP allows you to program a variety of radios from a single software program. CHIRP covers a large number of radio brands and models. However, when program a DMR radio you need to use a DMR software program, which is a bit more complicated!

I had problems when I first tried to program my DMR radio. I'd follow a set of instructions that came with the software, and it wouldn't work! When I did a Google search, I discovered that plenty of other radio operators had trouble with the programming of their DMR radios. There's a consensus that codeplugs are difficult to create. The problem people run into is that there are a few additional steps to creating the codeplug and you need to follow those steps in a specific order. When you program an analog radio via a software program, it is very straight forward. All pertinent data is entered left to right, with one frequency per program line. DMR radio programming is similar, but you need to bounce back

and forth between files and that is where things become seemingly complicated. It's in this back-and-forth action that things go wrong.

What I decided to do was to provide you links to the websites and webpages that I used to be able to program my DMR radio successfully. I suggest reading through them and watching the videos first, taking notes, and then start programming. Look at all the links, not just one. While the radio brands differ, the basics are the same.

Videos:

How To Write a DMR Codeplug in 2021:

<https://www.youtube.com/watch?v=T3sUntEVqCY>

How to program a DMR radio Codeplug:

<https://www.youtube.com/watch?v=VExx628R0DM>

How to Build your own DMR Digital Radio Code Plug - Ham Radio Q&A

<https://www.youtube.com/watch?v=h0ssXJUT458>

Articles:

Creating a DMR Codeplug

<https://www.jeffreykopcak.com/2017/06/11/dmr-in-amateur-radio-programming-a-code-plug/>

How to Build Your Own DMR Digital Radio Codeplug

<https://www.jpole-antenna.com/2018/02/20/how-to-build-your-own-dmr-digital-radio-code-plug/>

