

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 47, Number 7

July 2022



Meetings & Gatherings

Our in-person general meetings have resumed! Masks are required. We're now meeting at the San Jose Red Cross, room 3, no longer at Kaiser. The board meeting will be held verbally at the normal day and time on our 2 m repeater immediately following the Monday night net. The electronic flea market has been canceled for the rest of the year.

The number of people fully vaccinated has been leveling off. Statewide it's 75.6% (75.3% last month); in Santa Clara County it's 86.2% (86.0% last month).

The average number of new cases daily in Santa Clara County is 985 (1050 last month). That's pretty high compared to 146 in March.



A **second booster** is recommended for those 50 and older or anyone with a compromised immune system, provided it's been 4 months or longer since your first booster. And now kids under 5 are eligible to be vaccinated.

Club Station

Our club station at the Red Cross wasn't open in June due to Field Day. We will return on Saturday July 30th for our members to come down for general operating. Time is 10AM-4PM. Field Day is always a lot of fun. Hope everyone had a good time on Field Day. See you on July 30th



73, Don Village K6PBQ

What Length?

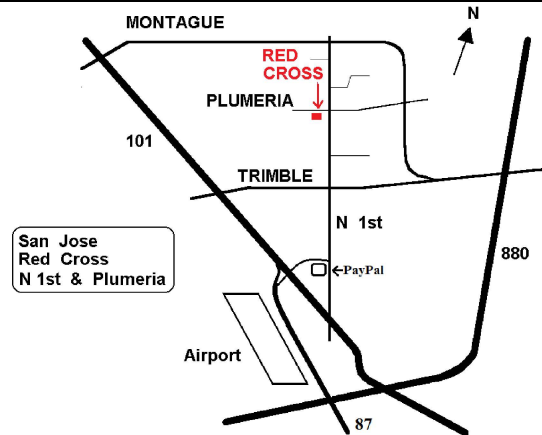
No matter what ham transceiver you buy, you will immediately be confronted with the problem of what antenna to attach. Hand held radios might be an exception, but even these have provision for an external antenna. Two options are available, namely, store bought or home made. I elected to buy a tri-beam YAGI for the higher bands and all the design parameters were calculated for me. Using resonance traps, it uses a single geometry

Calendar

- 7/11 **SCCARA General Meeting**
- 7/18 **SCCARA Board Meeting:** On our 2 m repeater after the net at 7:30 PM)

General Meeting

- Day: Monday, July 11
- Time: 7:30 PM
- Place: San Jose Red Cross, room 3
- Featuring: {to be announced}



for all three bands: 20, 15 and 10 meters. Sitting atop a forty-foot tower, it rotates on command and simply amazes in its directivity and gain. The lower bands, 40, 80 and 160 meters, have wavelengths that require wire antennas for economic reasons, their lengths simply too long for rotatable construction. Length you say? Yes, Length! For an antenna to resonate properly its length must have the correct relationship to the frequency. Simply put, the antenna length must match the wavelength. The simplest wire antenna is the dipole, which must be cut to 1/2 the wavelength. The formula is simply frequency in MHz divided by 468 which gives the full length. Divide by two and you have the two pieces which attach to the center conductor and shield of the coax feed

The **SCCARA-GRAM** is published monthly by the **SANTA CLARA COUNTY AMATEUR RADIO ASSOCIATION**, PO Box 106, San Jose CA 95103-0106.

SCCARA was formed in 1921 and became a non-profit corporation in 1947. SCCARA is an affiliate of the American Radio Relay League (ARRL). The club station is W6UW.

Permission to reprint articles is hereby granted, provided the source is properly credited.

The deadline for articles is the **last Monday of the month.**

Web page: www.qsl.net/sccara

club email: w6uw@arrl.net or w6uw@sbcglobal.net

BOARD OF DIRECTORS

(officers are also directors)

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SCCARA REPEATERS

SCCARA owns and operates two repeaters under the call W6UU:

2 meter: 146.985 - PL 114.8
70 cm: 442.425 + PL 107.2

Phone auto-dial and auto-patch is available. The two meter repeater is located at Eagle Rock near Alum Rock Park in the foothills of east San Jose. The 70 cm repeater is located at the Regional Medical Center (formerly Alexian), east of downtown San Jose, north of 280 and 101.

SCCARA NETS

On our two meter repeater: Mondays at 7:30 PM, (not the second Monday--our meeting night). Coordinator: Don Village, K6PBQ. On ten meters, 28.385 MHz USB, Thursdays at 8:00 PM. Net control: Wally Britten, KA6YMD. Visitors welcome.

NØARY PACKET BBS

SCCARA hosts the packet BBS NØARY (connect to n0ary-1). User ports: 145.09 MHz at 1200 baud, 433.37 MHz at 9600 baud, and telnet sun.n0ary.org (login "bbs"). Sysop: Gary Mitchell, WB6YRU For general packet info, see the NCPA web site ncpa.n0ary.org.

AMATEUR LICENSE TESTING

ARRL/VEC Silicon Valley VE group:
Morris Jones, AD6ZH: 408-507-4698

line respectively. It turns out that the wire attached to the shield radiates all the way down the shield to the radio. This distorts the radiation patten, because the element attached to the coax core can't radiate past the point where it enters the shield. So thankfully someone came up with a device called a current BALUN which stops the shield from radiating. You can make them yourself, but they are available cheaply and beautifully made. They are contained in PVC piping with eyelets for hanging and attaching the wires as well as a coax connector.

Everyone reading this surely knows all this, so where am I going? I have a rather large piece of property that allowed me to construct a 160-meter dipole antenna. Roughly 246 feet long, it extends into Alum Rock Park at one end and an unknown neighbors empty lot at the other end. I bought some 12-gauge wire at Home Depot that was covered in white PVC insulation. I calculated the exact length I needed, attached the two arms to a high quality current BALUN, attached the coax and up it went. I ran excitedly into the house and attached my MFJ 259 antenna analyzer to the coax and was shocked at the results. Twelve feet too long! What the hell? I went out and re-measured my antenna and it was just what I had intended. After recovering my composure, I consulted the internet, the endless source of answers. I finally found an article that warned about using insulated wire. Insulation has negligible effect on radiation, but definitely impedes propagation down the length of the wire. Antennas not taking this into account will be too long it said! So I did the necessary calculations, what I designed versus what I got, and calculated the length of wire to be removed. I didn't do it with one chomp, but sort of nibbled my way to perfection. I now have a full-length 160-meter dipole that works and I am smarter for the effort.

When I was first introduced to the physics of electricity in my freshman year in high school, I was told it had to do with free electrons which were loosely bound to the outer valance rings of their parent's metal atoms. The electrons traveled down the wire at the speed of light and could deliver energy to great distances. I probably wasn't listening too carefully because anything with mass that achieves the speed of light attains infinite mass and what a nice explosion that would be! Nevertheless, I pictured electrons hurtling down wires at horrendous speeds and that's how it worked. All this was further confirmed by the description of a triode tube in which electrons hurtled from the cathode to the anode through a vacuum and surely this was at a very high speed. Eventually I learned that current in a wire is mostly on the outside skin of the wire, the law of like charge repulsion forcing the free electrons to their furthestmost estrangement. Then I learned, as described above, that current in a wire is slowed down if there is insulation molded onto the wire. Finally I learned that an electron doesn't enter one end of a wire and pop out the other end and that the mechanism for current flow is actually a bumping your neighbor and your neighbor bumping his and so it goes. Enter Newton's Cradle to show what really happens:



Pull on the first ball and let go. The energy is transferred to the last ball with those in between barely moving. And that's the rest of the story!



Goetz Brandt, K6GKB

ARRL News

From *The ARRL Letter*, June 16, 2022

Reverse Beacon Network Launches Updated Website

At 0500 UTC (1 AM EDT) on Thursday, June 16, the Reverse Beacon Network (RBN) launched their updated website (www.reversebeacon.net). The intent of the revised website was to replace the original and beta websites and to include a Secure Sockets Layer (SSL) to enhance security for users of the site.

The RBN is a network of stations that listen to the bands and report what stations they hear, including when and how well. The website's database of past spots allows operators to instantly find what stations (from any given country or zone) have been heard, at what times, and on what frequencies. Operators can also see when they have been spotted, who spotted them, and how loud the contact was.

There is an option to compare your signal with those of friends and competitors, in near real time, or look at historical data of previous transmissions. If you wonder how your signal compared to others' during a previous contest, the website's Signal Comparison Tool will provide real, quantitative data. For an instant report, query what stations you want to compare, based on signals heard by a given reverse beacon on a certain band at a certain time.

In 2009, Pete Smith, N4ZR, and Felipe Ceglia, CT7ANO, worked to get the first version of RBN online. The work of Mark Glenn, K7MJG, on the website and Dave Pascoe, KM3T, on connecting the servers, contributed to RBN as a resource for listening and tracking signals. The new version is the first major upgrade for the site.

A guide to the website's new features is available on the beta site, as well as on the new site under the 'about' tab.

-- Thanks to Pete Smith, N4ZR

Need Tubes?

[DX Engineering](#) has announced that it has added Penta Laboratories RF vacuum tubes to its product line. "In the ham radio community, special RF power vacuum tubes are essential replacements for current model amplifiers. They are also used to revive legacy amplifiers, and some technically savvy operators build vintage-style homebrew equipment and other devices using vacuum tubes," included the DX Engineering announcement. [Penta Laboratories](#) describes that it "was founded in 1951, and quickly achieved industry-wide recognition for the development of the beam-power Pentode vacuum tube." The company stocks thousands of tubes for a range of disciplines, including vacuum tubes designed for ham radio and other radio frequency applications. Penta Laboratories' states that their tubes are burned in for a minimum of 48 hours, dissipating full power with filament plate, and support screen voltages that are normally used in amplifier applications.

<http://www.dxengineering.com/>
<https://pentalabs.com/>

From *The ARRL Letter*, June 23, 2022

ARDC Grants Help Fund Elementary and College Projects

The California-based Amateur Radio Digital Communications (ARDC) foundation has issued two grants aimed at helping elementary schoolers and college students learn and experiment with amateur radio.

The first grant going to Science is Elementary (SiE) -- a 501(c)(3) non-profit organization -- will allow for the printing of "Jasmine and José Build a Radio," the next volume in the SiE series of books, which helps students solve problems using science. The grant also includes 2,240 kits for students, an onsite field trip for fourth graders, and all materials to help with the experiments. It is targeted for 7-year-old students and their families, including those with limited incomes, so that everyone can participate.

The "Jasmine and José..." story will find the pair visiting a friend who is an amateur radio operator. Intrigued with what they see and hear, they set out to build a radio of their own.

The kits will be distributed for free to students in Title I schools in the San Francisco Bay Area. The book, which is in English and Spanish, will be available for free as an online PDF. The field trips will allow students to work in teams using simple components to build a working radio.

The ARDC says these lessons track the Next Generation of Science Standards (NGSS), setting expectations of what students should know and be able to accomplish.

The second ARDC grant is to Bradley University in Peoria, Illinois. It will allow three recent graduates to complete their work, which will allow amateur radio operators to experiment in the 33-centimeter band.

The project is known as the DAEMod-915 and is being developed by Peter Handler, W9PLH, Connor Dickey, KD9LSV, and Philip Pierce, AC9YC. Their work, using digital protocols, will allow amateur radio operators, developers, or other educational institutions to experiment and build hardware or software for their own unique applications.

The 33-centimeter band is 900 MHz (902 - 928 MHz) and is allocated on a secondary basis to amateur radio operators, although in some areas of the United States, there are restrictions from using all of the band.

Non-licensed users known as ISM (industrial, scientific, medical) can also use the band to develop applications and hardware for commercial uses.

Once the DAEMod-915 project is complete all the data and software will be available at <https://github.com/DAEMod-915>.

For additional information about ARDC, visit their website at www.ampr.org.

Alexanderson Alternator VLF Station

The [Alexander Association in Sweden](#) will celebrate Alexanderson Day on July 3, 2022.
<https://alexander.n.se/en/the-alexander-association/>.

Grimeton, Sweden, is the site of the World Heritage Grimeton Radio Station which includes a 98-year-old 200kW Alexanderson alternator.

Amateur radio station SK6SAQ will be in operation using the following frequencies:

3.535 kHz (CW)
7.035 kHz (CW)
14.035 kHz (CW)
3.775 kHz SSB
7.140 kHz SSB

QSL reports can be sent to SK6SAQ at info@alexander.n.se

The transmitter set consists of three parts, the driving motor (foreground), a gear drive to increase the rotation speed from 711.3 rpm to 2115 rpm, and the high frequency generator, commonly called the alternator, is the part in back. They are assembled on a solid base of steel. The weight of the complete transmitter set is about 50 tons.



It produce a frequency of up to 17200 Hz, which is an extremely high frequency for rotating electrical machines. Its maximum power is 200 kW, but normally it's run at 80 kW.

{Yeah, you read that right. Those frequencies are in the audio range! Well, VLF is 3 to 30 kHz after all. - Editor}

Meeting Minutes

General Meeting, June 13, 2022



{No minutes were received}

Board Meeting, June 20, 2022



The meeting was held verbally on our 2 m repeater W6UU/R

Meeting called to order by President Gregg Lane KF6FNA at 7:43 PM (PDT)

Attendance:

President Gregg Lane KF6FNA; VP Ned Tufekcic AC6YY; Secretary Barbara Britten KD6QEI; Treasurer Goetz Brandt K6GKB; Station Trustee Don Village K6PBQ; Director Lou Steirer WA6QYS; Director Wally Britten KA6YMD; Director John Parks W6JPP; Director Ben Shuford, KK6CCU.
Visitors: Editor Gary Mitchell WB6YRU, KM6WCA

Announcements:

Field Day is June 25, 26.

John W6JPP: Pacifcon is October 14-16. Volunteers who put in 6 hours will get their admission fee refunded. Go to the Pacifcon 2022 web site to sign up.

Also I'm doing Field Day at Henry Schmidt park on Saratoga Ave. near the golf course, contact me if you're interested in joining in.
Don K6PBQ: The club station will not be open this month because

of Field Day.

Roy KB6GHF: Is the SCCARA-GRAM e-mailed to members?
Wally KA6YMD: Yes, and it's also on the club web site.

President's Report, Gregg KF6FNA: Nothing new to report

Vice President's Report, Ned AC6YY: Nothing to report

Secretary's Report, Barbara KD6QEI: Three previous board meeting minutes (March, April, and May) were published in the SCCARA-GRAM.

Gregg KF6FNA:

Any corrections to the March minutes? (nothing heard)

Any corrections to the April minutes? (nothing heard)

Any corrections to the May minutes? (nothing heard)

Ben KK6CCU: What's the point, after this much time has passed?

Gregg KF6FNA: It's to give the board a chance to look them over and make corrections. We do this as they get published. March and April were just published. (Discussion followed.)

Gregg KF6FNA: There not being any corrections, all three minutes as published are approved by acclamation.

Treasurer's Report, Goetz K6GKB:

checking = \$ 11,014.44, cash = \$ 78.04, Total = \$11,092.48

Trustee's Report, Don K6PBQ: On July 30 the club station will be open. Have fun with Field Day this month.

Standing Committees

Editor's report, Gary WB6YRU: Thanks to Goetz K6GKB for a couple of interesting articles. He has a new one which will be in the July edition. I hope this encourages others to contribute something once in a while.

BBS Sysop's report: Gary WB6YRU: Not much new with the N0ARY BBS. However there is something regarding the BBS network: AG6QO BBS (up north) has pulled the plug. AG6QO was handling all NTS traffic (National Traffic System) for the Northern CA region. In the past NTS messages were handled by users at each BBS. But the amount of NTS traffic on packet had been dropping. They developed their own network, to which AG6QO was transferring NTS traffic from packet. Joe AG6QO reports there is no NTS traffic on general packet anymore, so closing down his BBS won't be a problem.

Repeater chairman's report, Wally KA6YMD: Both repeaters are working normally.

Webmaster's report, Wally KA6YMD: The web site is being kept update, nothing new to add.

Special Committee(s):

Membership, Ben KK6CCU: I'm looking into getting the committee together for a meeting. I'd like to see this effort can be expanded to schools. Are there any ideas?

Don K6PBQ: I'm in the process of getting started with the Children's Discovery Museum, that's something that might help. It's in the planning stages right now, we'll see what can be done.

John W6JPP: I'm working with a local church, there's talk of starting some sort of an amateur radio club.

Old Business:

Gregg KF6FNA:

We will have a work party for the antennas at the Red Cross at some point.

We have an antenna trailer, John is in charge of a work party to get it fixed up.

John W6JPP: No updates now. There's no problem keeping the trailer where it is. But we want to keep in maintained and

operable.

Gregg KF6FNA: The general meeting at the Red Cross went well. The doors were unlocked until 8 pm, not 7 as was expected. There's no screen for a projector, but there is a white board, we'll see if we can use that. The next general meeting will be July 11 at the Red Cross. We're looking for ideas for speakers.

The board meetings will continue to be held on the repeater like it is now.

Don K6PBQ: For the general meeting, how about discussing what people did for Field Day.

John W6JPP: Our ARRL Pacific Division Director is a good speaker.

Gregg KF6FNA: We need someone to be treasurer, please contact me if you are interested.

Barbara KD6QEI: I will not run for secretary next year for health reasons. I will finish out this year.

New Business:

Gregg KF6FNA: Don K6PBQ mentioned we have a Yaesu 847 it has HF and VHF, but it doesn't have an internal tuner. One can be added. One may show up on ebay.

Don K6PBQ: It really does need a tuner. It would be a good radio if only it had one.

John W6JPP: I have an early model Yaesu tuner, you may borrow it to see if it works. It should just plug in, not complicated.

Don K6PBQ: Yes, thanks. Bring it to the club station and we'll try it.

Ben KK6CCU: Last we had a meeting, I missed it. I was told there wasn't one on the net? (Discussion followed about meetings, nets, and emailing the newsletter.)

Meeting adjourned at 8:36 PM (PDT)

Gary Mitchell, WB6YRU, recording for the Secretary

to contact for each. If your topic isn't listed, ask one of the Elmers under the topic that comes closest and we'll ask around.

If you consider yourself to be reasonably competent in at least one area of amateur radio and would be willing help others, please fill out an Elmer form (available from the club secretary or on our web site).

Topics:

Antennas, feed-lines, tuners: **NV6W, W6JPP, K6PBQ**

CW (Morse code): **NV6W, K6PBQ**

DX (long distance, propagation): **NV6W**

EchoLink: **K6GKB**

Emergency operating, preparedness: **WA6QYS**

HF operating techniques: **NV6W, K6PBQ**

Homebrew projects, construction: **WB6YRU**

Legal, FCC rules: **WB6YRU**

License testing, new amateurs: **W6JPP**

Lightning protection, grounding: **WB6YRU**

Packet Network (BBS, forwarding): **WB6YRU**

SCCARA (club inner workings): **K6PBQ, WB6YRU, WA6QYS**

Station set-up, equipment: **K6PBQ, W6JPP**

TVI, RFI: **WB6YRU**

Contacts:

K6GKB, Goetz Brandt, 408-259-7287

e-mail: goetz@ix.netcom.com

NV6W, James D. Armstrong, Jr.,

evening & msg: 408-670-1680

W6JPP, John Parks

e-mail: w6jpp@arrl.net

K6PBQ, Don Village, 408-263-2789

e-mail: donvillage7@yahoo.com

WA6QYS, Lou Steirer, 408-241-7999

e-mail: wa6qys@arrl.net

WB6YRU, Gary Mitchell, 408-269-2924

packet: home BBS N0ARY

e-mail: wb6yru@ix.netcom.com

Packet Pieces

Downloaded from the BBS packet network:

=====
Date: 16 Jun 2010 03:04
From: W1GMF@W1GMF
To: HUMOR@USA
Subject: Diapers

After a young couple brought their new baby home, the wife suggested that her husband should try his hand at changing diapers. "I'm busy," he said, "I'll do the next one."

The next time came around and she asked again. The husband said, "Oh! I didn't mean the next diaper. I meant the next baby!"

Need Help?

Amateurs have a long history of helping each other. An experienced amateur who helps another is traditionally called an "Elmer." If you have a question or problem, you are encouraged to ask one of SCCARA's Elmers. Below is a list of topics and who

Newsletter Notes

A printed version of the 100th anniversary edition is available at the general meetings for those who would like one as a keepsake. Let me know if you want one but can't make it to a meeting, I'll mail you one.

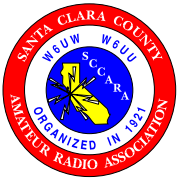
It mentions a QSL certificate and shows a sample. Obviously one was planned, but due to the low number of contacts made during our special event station and lack of interest by some 95% of them, it was canceled. A similar-looking membership certificate was proposed for all members in 2021, but that was nixed too and for the same reason.

And unfortunately the corona virus pandemic put the kibosh on our meetings for over two years, including all of 2021. So the 100th anniversary edition is pretty much all we have.

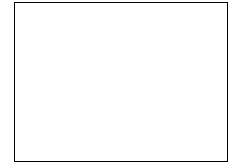
It may be disappointing for a longevity milestone to just fizzle like that, but at least SCCARA is still here after 100 years! That wasn't a sure thing.



73, Gary WB6YRU, editor



SCCARA
 Santa Clara County Amateur Radio Association
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FIRST CLASS

ADDRESS SERVICE REQUESTED

SCCARA Membership Form for 2022

If renewing and none of your info has changed, we only need your name and call

Name: _____ Call: _____ Class: _____

Address: _____ Licensed since (year): _____

City: _____ State: _____ Zip+4: _____

Telephone: _____ New Member Renewal I'm also an ARRL member

E-mail: _____

only for club communications and the SCCARA-GRAM newsletter (pdf)

Membership type and dues: Individual, \$20 Family, \$25 Student, \$10 (under 18)

Memberships start January 1 and expire December 31.

Family memberships (more than one member per household): please include the above info for each member, use separate forms.

New members:

Dues are prorated: dues x (11 - month) x 10% For example: July would be \$20 x (11-7) x 0.1 = \$8)

If joining in November or December: normal dues for next year, the rest of this year is included free.

I want the paper newsletter delivered by U.S. Mail for an additional \$15 per year

(Prorated, \$1.25 per month. That's \$13.75 if starting in February, \$12.50 if starting in March, etc.)

\$ _____ **Total** enclosed

Give this completed form and payment to the Secretary or Treasurer at any meeting or mail to the club address.