



Santa Clara County Amateur Radio Association

Volume 31, Number 6

June 2015

Prez Sez

Field Day is Here!

Your Board has had much discussion about our location for field day. Mt. Madonna was a great location but too far away for many to just drop buy. Alviso was easy to book, mostly because no one else wanted to be there.

Gregg, KF6FNA worked his heart out using his truck and partitions to try and secure us from the wind. To do that Phone, Digital, and VHF/UHF stations were closely co-located. That was handy if you wanted to chat between stations but became a big issue if say Phone and CW wanted to share the same band. Because of RFI consequences we functioned as a single operator station for much of our contest even though we were a two operator entry.

Receivers have only so much selectivity. Selectivity is the ability of a receiver to discern one station from another nearby station. By nearby we mean both nearby in location and frequency. When a transmitter is too close to a selectivity deficient receiver it is unable to complete the contact. Some will call that QRM, RFI, or just confounded noise. The result is often a missed contact as well as lots of operator frustration. Worse the operator often fails to recognize the RFI condition and blames their own lack of skill or the radio for losing the contact. This also makes for a very difficult teaching situation at the GOTO (Get On The Air) station.

There are many solutions to insufficient selectivity but the easiest is to put distance between stations. In the near field offending signals are reduced by the inverse cube of their distance. I know that sounds complicated but it simply means a little distance will make a big difference. So much so that the FD rules prohibits stations within the same class of spreading more than 300 meters (1000 feet) apart.

Back to point. Co-locating stations is to be avoided. We need to spread out our stations to avoid interfering with our own stations. We need a location like Mt. Madonna or even bigger. After surveying half a dozen sights several sites within Vasona County Park were chosen as target sites. We applied for a park permit which has been granted. However there are many restrictions your board is dealing with. For that reason there are still some final details to be worked out. This is why it is essential you attend our next meeting on June 8th at our regular meeting location.

The park is a big one so there will be assistance for finding our exact location. As usual we have the club repeater (146.985 MHz, minus offset, PL 114.8) or simplex 146.52 MHz for talk-in. Also Wally will be using his cell (408) 891-1105 for directions. The park gates open at 8:00am and close at 8:30pm. There will be emergency access at other times but the park will be

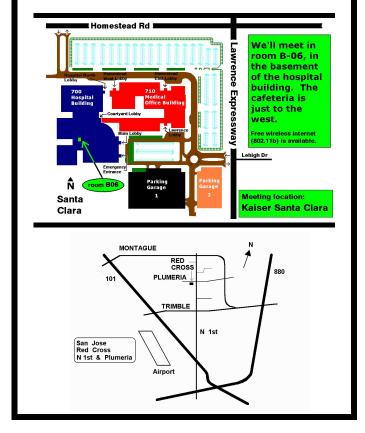
Calendar

- 6/8 SCCARA General Meeting
- 6/13 Electronics Flea Market De Anza College
- 6/15 SCCARA Board Meeting--(San Jose Red Cross, 7:30p, all are welcome)

6/27-28 Field Day

General Meeting

<u>Day:</u> <u>Time:</u> <u>Place:</u> Featuring: Monday, June 8, 2015 7:30 PM Kaiser Santa Clara, Hospital B-06 Field Day



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

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.

Web page: http://www.qsl.net/sccara. (Webmaster: Wally Britten, KA6YMD, 408-293-3847, ka6ymd@arrl.net)

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SCCARA REPEATERS

 SCCARA owns and operates two repeaters under the call W6UU:

 2 meter:
 146.985

 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.

TELEPHONE NUMBERS

SCCARA contact Clark KE6KXO: 408-262-9334 Amateur license testing, ARRL/VEC Silicon Valley VE group, Morris Jones, AD6ZH: 408-507-4698 otherwise closed and travel restricted. Parking will be easy and close to our event with wheel chair access.

See you there!



73, Fred, AE6QL, ae6ql@arrl.net.

ARRL News

From The ARRL Letter, April 30, 2015

FCC Proposes to Permit Amateur Access to 2200 and 630 Meters

Amateur Radio is poised to gain access to two new bands! The FCC has allocated a new LF band, 135.7 to 137.8 kHz, to the Amateur Service on a secondary basis. Allocation of the 2.1 kHz segment, known as 2200 meters, was in accordance with the Final Acts of the 2007 World Radiocommunication Conference (WRC-07). The Commission also has proposed a new secondary 630 meter MF allocation at 472 to 479 kHz to Amateur Radio, implementing decisions made at WRC-12. No Amateur Radio operation will be permitted in either band until the FCC determines, on the basis of comments, the specific Part 97 rules it must frame to permit operation in the new bands. Amateur Radio would share both allocations with unlicensed Part 15 power line carrier (PLC) systems operated by utilities to control the power grid, as well as with other users. In addition, the FCC has raised the secondary Amateur Service allocation at 1900 to 2000 kHz to primary, while providing for continued use by currently unlicensed commercial fishing vessels of radio buoys on the "open sea."

The allocation changes, associated proposed rules, and suggested topics for comment are contained in a 257-page FCC Report and Order, Order, and Notice of Proposed Rulemaking addressing three dockets -- ET-12-338, ET-15-99, and IB-06-123 -- which affect various radio services in addition to the Amateur Service. The FCC released the document on April 27.

https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-50A1 .pdf

With respect to the new LF sliver band at 135.7-137.8 kHz, the FCC concluded that Amateur Radio and PLC systems can coexist there. "Since the Commission last considered this issue, amateurs have successfully operated in the band under experimental licenses without reported PLC interference," the FCC said. In 2003, the FCC turned down an ARRL proposal to create a 135.7-137.8 kHz Amateur Radio allocation, after utilities raised fears of a clash between Amateur Radio and PLC systems operating below the AM broadcast band. This time, the FCC said, "It is clear that we will have to establish appropriate requirements for amateur use of the band, if we are to ensure compatibility with PLC systems." WRC-07 set a maximum effective isotropic radiated power (EIRP) limit of 1 W, which is what the FCC is proposing.

The FCC said it "explicitly" rejects the suggestion that it choose one use of the spectrum over the other. "Our objective is to allocate spectrum on a secondary basis to amateur stations in a manner...compatible with existing PLC systems," the FCC said. "However, we also expect to permit amateur operators to make use of the allocation in a manner that is less burdensome and more productive than they are currently afforded under the experimental authorization process." The Commission said that if it concludes, after considering the record, that Amateur Radio and PLC systems cannot coexist, it would "defer the adoption of service rules, and amateur users will have to continue to use the experimental licensing process to operate in the band."

With respect to the proposed 630 meter allocation, the FCC has proposed limiting amateur stations in the US to a maximum 5 W EIRP. The ARRL submitted a Petition for Rule Making in 2012, asking the FCC to allocate 472-479 kHz to the Amateur Service on a secondary basis and to amend the Part 97 rules to provide for its use. Several countries, including Canada, already have access to the band. The ARRL has pointed out that during its extensive course of experimentation in the spectrum around 500 kHz, no interference reports have been received.

The FCC said that the "cornerstone" of the technical rules it's proposing for both bands is "physical separation between amateur stations and the transmission lines" carrying PLC signals. "Such a separation, in conjunction with limits on the amateur stations' transmitted EIRP and antenna heights, will enable PLC systems and amateur stations to coexist in these bands," the FCC asserted. "In addition, we propose to limit amateur stations to operations at fixed locations only, to ensure that this separation distance can be maintained reliably."

The FCC said it wants to hear from both PLC system users and radio amateurs regarding technical requirements it would have to put into place to permit both users to operate comfortably and without compromising the PLC systems. The Commission suggested that other requirements might include limits on antenna heights, transmitter power limits, and operating privilege limits based on license class or mode. The ARRL will file comments in the proceeding.

The FCC will accept comments for 60 days following publication of the Report and Order, Order, and Notice of Proposed Rule Making in the Federal Register. Reply comments would be due 30 days after the comment deadline.

Buyer Beware

Imagine my surprise when an ICOM IC-706MKIIG showed up on EBAY for an extraordinarily low price. Sadly, I have the predator gene that likes to pounce, savage and plunder. This is the gene that drives people to flee markets, garage sales and estate liquidations. Nothing satisfies like 10 cents on the dollar. So I let the EBAY minutes tick down until just 30 seconds remained, placed my bid and watched the clock expire with no opposition. Took some time for the adrenalin to get absorbed and my elation to subside after I was pronounced the winner. Now the rationalizing began. I have two 706's constantly monitoring the two club repeaters, one permanently installed in the Camry, one installed in the boat, and now one extra for Sunday in the park, or Field Day or temporary installation in the Van or who knows what. Sounds pretty reasonable to me! Took five days for UPS

Sounds pretty reasonable to me! Took five days for UPS to deliver the radio to the house and the excitement began all over again. Styrofoam peanuts all over the place, box within a box, bullet proof plastic air cells and finally a pristine looking ICOM IC-706MKIIG emerged. I couldn't get this thing fired up fast enough. Hooked up the power cord to a power supply, attached my dummy load to the antenna output, microphone into the J45 plug and everything looked perfect. Pushed the power on and the display lit up as pristinely as could be wished. Checked all the setup menus, everything nominal and ready for test. I chose RTTY and mashed the microphone button. Slightly more than 100 watts. I sped from band to band confirming that the radio seemed to be

perfect.

That's when the smell of soggy rotten cigarettes started to fill the room. Flood the room is probably more descriptive. As the radio got warmer the smell got stronger and simply overwhelmed me. Hard to believe that so much stink could come from so small a radio. So I rationalized that this was a small price to pay for a perfectly working radio. After all, given time the coating of nicotine tar would vaporize and disappear. Not so Pilgrim, STINK NOT GO AWAY! Discussing my problem with other hams, most laughed and said the smell is here to stay. There is nothing that can be done. Now I know why most EBAY adds state "from a non smoking environment." I have named the radio "STINKY" and chalk up the disaster to KARMA. After all, my motives were less than pure when I thought I was taking someone to the cleaners.

Goetz Brandt, K6GKB

Blast from the Past

Evidently SCCARA's Field Day plans are still a work in progress. Normally the SCCARA-GRAM would have details of what we will do by now. Since that's not the case this year, just for fun here is an article from the April 1994 SCCARA-GRAM. We sure knew how to plan 'em back then, didn't we? ©

-- Editor

A Different Field Day

1994 FIELD DAY

June is getting close and I am putting the plans for field day together. We have had many successful field days in the past, but our operation has become monotonous and we don't have a lot of new challenges. This year, I have decided to make a few changes to the operation.

First we need to work on our publicity points. In the past we have sent publicity information to the Mercury News and they have ignored us. This year we will try for more circulation. I selected Playboy Magazine since it is widely circulated and everybody reads it for the articles.

We will be operating entirely on alternate power sources. The tower on the trailer will be modified to accommodate a windmill. (Please sign up for the midnight working party at the Altamont Pass next week.) Of course with SCCARA's luck there won't be any wind. To handle this contingency, a second trailer will contain four giant fans and a nuclear power source to run them.

The trailer will also have to be modified for the new antennas. We will not be using dipoles or long wires this year as 3 element cubical quads (2 elements on 160) will be erected for all bands.

We will be running QRP pencil sharpeners and a little more power on the transmitters borrowed from the local broadcast stations.

The contact logging program has been slightly enhanced, so this year we will be using Cray computers. I just hope they will be fast enough to record the contacts which will be occurring at a blinding rate.

In the past we have had marginal success with satellite contacts, so this year we will launch our own bird in a geosynchronous orbit over Mt. Madonna.

A new rule awards extra points for extraterrestrial contacts. NASA has agreed to lend us a few antennas for this purpose.

Erecting all this equipment on site in the time allowed would be a problem. I have arranged the use of Moffet Field to erect the equipment at our leisure and then some Marine helicopters will lift it in tact and move it to the site on Saturday morning.

Last year we noticed many more mosquitos in the park, so I have arranged for a dome to enclose the entire operating area. I couldn't get separate climate controlled zones, so we will have to compromise on a temperature.

The food will be catered by EMILES. There will be a slight increase in the price. Don't forget to tip the waiter!

The ARRL has decided that the normal field day message is too short and too easy to get. They have also want to save printing expenses. So this year, the field day message will be the entire 1995 ARRL Handbook. I will need some volunteers to work in shifts on this one.

The size and scope of our visitors center will be increased. Busses will leave every 15 minutes from the center to tour the transmitter sites.

I think with these small changes, 1994 will be a field day to remember.

Seriously, June will be here before we know it. I hope you plan to participate in the event. Come out for the whole weekend or maybe just a few hours.

73, Harold Welch, KK6ZE Field Day Chairperson

Low Voltage

Most mobile ham equipment operates at a voltage of 13.75 volts. This exactly matches the voltage a car alternator produces if an alternator is properly adjusted. This is the maintenance charge for lead acid batteries which just offsets the leakage due to internal resistance. The terms ESR and EPR which apply to capacitors also apply to batteries. We would like the Effective Series Resistance to be zero and the Effective Parallel Resistance to be infinite. Unfortunately the EPR as not infinite and a battery left "untrickled" will eventually neutralize itself and produce no voltage at all. A fully charged lead acid battery with no external assistance produces 12.65 volts, a full volt less than mobile equipment is designed for.

So what effect does this difference in voltage have on the power output of the radio? Is a lead acid battery able to keep things going unchanged or is there a penalty for loosing the charging voltage? This is easy to test, a portable HF radio, a dummy load with a power meter and a lead acid battery and its associated charger are all that is needed. I did this with my ICOM 706MKIIG using RTTY as the mode and triggering the transmit button with charger attached and then with battery only. The radio produced the advertised 100 watts at 13.75 volts but dropped to 45 watts when the battery was the sole source of power.

This is not good news for emergency operation. But there is a simple solution called a battery booster. Several manufactures provide these devices which accept voltages from a low a 9 volts and producing the desired 13.75 volts. Placed between the battery and the radio, output power remains the same, charging voltage or not. One example is the TGE N8XJK Boost Regulator which is very small and has three operating positions. Bypass, Full Time, or RF Enable. The last option saves power by enabling the unit only when RF power is sensed from the radio.

Goetz Brandt, K6GKB

Shack Attack

I have yet to make a breakthrough discovery that isn't old hat to everyone else. But just in case I'm actually ahead of the crowd on this one, here is my story. My ham shack is plagued by an enormous gravity vortex than hangs over my equipment and dumps great truck loads of dust on everything. All that beautiful charcoal grey finish loses its blackness and becomes a disgusting whitish grey. Dust is of course its own catalyst and attracts additional dust like a magnet attracts iron filings.

Remembering my car painting days back in college, a similar problem was solved with an item called a tack rag. The beauty of these things was that they picked up all of the sanding dust while leaving the surface cosmetically clean for painting.

So off to Cook's Automotive on 4th Street in San Jose, the MECA for automotive painting supplies. They sell "Surgical Blue Super Tac Rags" in individually wrapped sealed plastic bags that unfold to 18" x 36" inches. Disgustingly sticky, but residue free, they suck up dust like a vacuum cleaner. At 80 cents each, stocking your cleaning supplies is very affordable. This in combination with an acrylic 1" artists paint brush makes quick work of restoring radios to their original beauty. The paint brush works perfectly on grooved face plates, numerical keypads, bezel crevices and ribbed tuning knobs. High quality acrylic long handled paint brushes are available at most artist supply stores. Armed with these tools, equipment can be maintained to new appearance.

Goetz Brandt, K6GKB

Meeting Minutes

General Meeting, May 11, 2015



{no minutes submitted. -- Editor}

General Meeting, April 13, 2015

Kaiser Santa Clara, 710 Homestead Rd., Room B06 Status: unreviewed

President Fred Townsend AE6QL called the meeting to order at 19:36. Introductions were shared.

Announcements:

1) Lou WA6QYS Thanked all that helped with the SVECS FLEA MARKET. SCCARA's FLEA MARKET will be in August.

2) The next SVECS BREAKFAST will be Saturday April 25, 2015. The location is the Santa Clara Senior Center on the corner of Fremont and Monroe. The \$5 all you can eat breakfast is served at 09:00. Presentation at 10:00. The subject is the installation of a ham radio station at the Cupertino Station of the Santa Clara County Fire Department.

3) John W6JPP reminded all that the DX Convention in Visalia will be April 17-19, 2015.

4) Gregg KF6FNA announced that the May SCCARA program will be HOME BREW NIGHT. There is an ARRL \$25 gift certificate for the best home brew project.

5) Don K6PBQ announced that the club station at the Red Cross will be open Saturday April 25. The station should be open by 2PM. Call ahead on the SCCARA 2M repeater to make sure that it is open.

6) The MS Walk is on April 25, 2015.

7) Fred AE6QL reminded all that Field Day 2015 will be on June 26-28, 2015.

8) The Big Sur International Marathon is Sunday, April 26, 2015.9) Gary WB6YRU has set out extra SCCARA-GRAMs on the back table.

Gregg KF6FNA introduced Steve Olson KI6MYE. Steve spoke about his trip to Costa Rica with his daughter, Kjerstie KI6VNG, to participate in the "YOUTH DX ADVENTURE" (YDXA) in June 2012. The YDXA sponsors 6 youth plus chaperons to a DX location (this time it was Costa Rica) and provides transportation, antennas and lodging for a great DX experience. Steve finished his presentation at 20:34 and refreshments were shared.

Gregg Lane, KF6FNA, Secretary

Board Meeting, May 18, 2015



{no minutes submitted. -- Editor}

Packet Pieces

Downloaded from the BBS packet network:

Bernard, who is noted for his gracious manners, was awakened one morning at 4:30 AM by his telephone.

"Your dog's barking, and it's keeping me awake," said his angry neighbor.

Bernard thanked the caller politely.

The next morning at precisely 4:30 AM Bernard called his neighbor back: "Good morning, Mr. Williams.... Just called to say that I don't *have* a dog."

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 including who 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 from the club secretary.

Topics:

Antennas, feed-lines, tuners: NV6W, W6JPP, K6PBQ, WB6YRU

Lightning protection, grounding: WB6YRU Station set-up, equipment: K6PBQ, W6JPP TVI/RFI: WB6YRU Homebrew projects, construction: KD6FJI, WB6YRU Computers: older IBM PC: WB6YRU Packet Network (BBS, forwarding): WB6YRU Code operating and installations: NV6W, K6PBQ DX (long distance/propagation): NV6W Emergency operating/preparedness: WA6QYS HF operating techniques (SSB, CW): NV6W, K6PBQ Legal/FCC rules: WB6YRU SCCARA (club inner workings): K6PBQ, WB6YRU, WA6QYS EchoLink: KK6MX License testing, new amateurs: W6JPP

Contacts: NV6W, James D. Armstrong, Jr., evening & msg: 408-670-1680

KD6FJI, Lloyd DeVaughns, 408-225-6769 e-mail: kd6fji@arrl.net

KK6MX, Don Apte, 408-629-0725 e-mail: kk6mx@aol.com

W6JPP, John Parks, 408-309-8709 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

Newsletter Notes

Please see the ARRL News column (above).

I'm very glad to hear that we *finally* may get spectrum in the LF band, and another segment in the MF band. It's not much, just a sliver of spectrum, but some is better than none.

Some amateurs may not care about those low frequencies, but I find it fascinating to explore the boundaries. Although, at those frequencies, efficient antennas will be a challenge.

Furthermore, we have several segments in all the bands *except* below HF. We have just one segment in the MF band and nothing at all in the LF and VLF bands. The LF navigation beacons have been decommissioned for a while now, there should be a lot available. The only hurdle is that the power companies are allowed to use any frequency from 9 to 490 kHz for sending control signals down their power lines. That's under part 15, as unlicensed unintentional radiators. OK, but do they need ALL of that spectrum? They managed somehow during all the years the NAV beacons were operational. I don't see why the FCC can't carve out a moderate amount of space for us in those bands.

I hope you enjoyed the re-print of Harold's article.

73, Gary WB6YRU, editor



FIRST CLASS

ADDRESS SERVICE REQUESTED

SCCARA Membership Form for 2015

If none of your info has changed, fill in name and call only

Name:		C	all:	Class: E A G T	N
Address:				Licensed since (yr):	
City:	State:	Zip:		Licence Expiration Date (mo/yr):	
Telephone:	□ New Member □ Renewal □ I'm also a member of the ARRL				-
E-mail:					

You'll get a short e-mail notice each month letting you know a new SCCARA-GRAM (pdf) is ready for download.

Memberships start January 1 and expire December 31. Annual dues are: **\$20 Individual \$25 Family \$10 Student** (under 18) For family memberships (members at the same address), please include the above info for each member, (use separate forms).

New members:

If joining in January: normal dues If joining in February through October: dues x $(11 - month) \times 10\%$ (e.g. for July, that's: $20 \times 4 \times 0.1$, which is 8) If joining in November or December: normal dues. That's for next year, and the rest of this year is included free

□ I want the newsletter on paper delivered by U.S. Mail for an additional \$30 per year, prorated (\$2.50 per month). So that's \$27.50 if starting in February, \$25 if starting in March, \$22.50 if starting in April, \$20 starting in May, etc.

\$_____ Total membership payment for: □ individual □ family □ student