

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 27, Number 4

April 2011



President's Prose

I think most of us have discovered that our ham radio projects always take longer than expected. It seems like there's always the extra trip to the store, the missing documentation, gathering more information, needing a special-order part, or dealing with equipment that's not quite as advertised or plainly out-of spec. Then there is the joy of deciphering an instruction manual translated from Sanskrit by an illiterate warrior.

It seems that we always prevail, though, in spite of it all. There is a large amount of satisfaction in snatching success from the jaws of defeat. Success often requires the expertise and experience of others, as well as our own. The SCCARA "Elmers" are always available to lend a hand, and some of us have test equipment that we are willing to loan to someone who will treat it well.

Instead of writing a lengthy President's Prose this month, I decided to write an article called "The 440 Repeater Story". You'll find it here somewhere. It will give you some insight into the innards of our updated repeater as well as some of the problems encountered in getting it going.

Don't forget the 2-meter FM net on Monday nights, and the 10-meter SSB net (28.385 MHz USB) on Thursday nights. Anyone who has a license can join in.

73, Don - AE6PM



ARRL News

From *The ARRL Letter*, March 10, 2011

HR 607: NPSTC SAYS HR 607 "NEEDS TO BE AMENDED"

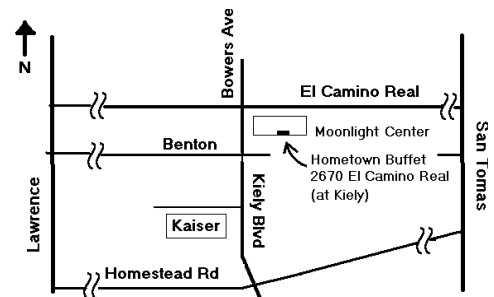
The National Public Safety Telecommunications Council (NPSTC) -- a federation of more than a dozen public safety communications organizations -- has gone on record as sharing the ARRL's concerns regarding HR 607, the Broadband for First Responders' Act of 2011. The ARRL is actively opposing the legislation in its

Calendar

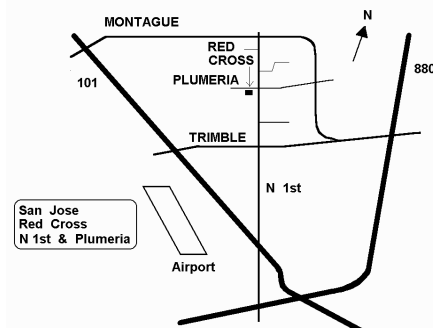
- 4/9 DeAnza electronic flea market
- 4/11 SCCARA General Meeting--dinner meeting!
- 4/18 SCCARA Board Meeting--(San Jose Red Cross, 7:30p, all are welcome)

General Meeting

- Day: Monday, April 11, 2011
- Time: 6:30 PM
- Place: Hometown Buffet
- Featuring: Dinner meeting



Santa Clara



The **SCCARA-GRAM** is published monthly by the **SANTA CLARA COUNTY AMATEUR RADIO ASSOCIATION**, PO Box 6, San Jose CA 95103-0006. Permission to reprint articles is hereby granted, provided the source is properly credited.

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>.

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(all 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.

N0ARY PACKET BBS

SCCARA hosts the packet BBS N0ARY (Mt Umunhum). User ports: 144.93 (1200 baud), 433.37 (9600 baud), telnet sun.n0ary.org (login "bbs"). Sysop: Gary Mitchell, WB6YRU (packet info: www.n0ary.org/ncpa)

TELEPHONE NUMBERS

SCCARA contact Clark KE6KXO:	408 262-9334
ARRL/VEC Silicon Valley VE group, Morris Jones, AD6ZH:	408 507-4698

current form because Section 207(d) of the bill -- introduced in the US House of Representatives by Representative Peter King (R-NY-3) -- calls for the reallocation of 420-440 MHz for commercial auction. The ARRL, which is a member of the NPSTC Governing Board, has assured NPSTC members that its opposition is limited to Section 207(d) and that it supports the underlying objective of the legislation, which is to provide spectrum near 700 MHz for a nationwide interoperable public safety broadband network. Read more at www.arrl.org/news/npstc-says-hr-607-needs-to-be-amended.

FCC ADOPTS SPREAD SPECTRUM RULES CHANGES

In a Report and Order adopted February 22 and released March 4, 2011, the FCC eliminated the requirement that amateur stations transmitting Spread Spectrum use Automatic Power Control (APC) to reduce transmitter power. At the same time, the Commission has reduced the maximum power of a Spread Spectrum emission from 100 to 10 W PEP. In March 2006, the ARRL filed a Petition for Rulemaking, asking that the APC requirement be eliminated.

The R&O explains the Commission's actions this way: "We believe that these rules changes will (1) encourage individuals who can contribute to the advancement of the radio art to more fully utilize SS technologies in experimentation, and (2) balance the interests of all users in mixed-mode and mixed-service frequency bands until sharing protocols are sufficiently developed to avoid interference." Read more at www.arrl.org/news/fcc-adopts-spread-spectrum-rules-changes.

From *The ARRL Letter*, March 17, 2011

ARRL FILES PETITION, REQUEST FOR TEMPORARY WAIVER WITH FCC REGARDING VHF VOICE AND DATA EMISSIONS

On Tuesday, March 15, the ARRL filed a Petition for Rulemaking and a Request for Temporary Waiver to authorize the use of single-time-slot Time Division Multiple Access (TDMA) emissions in the amateur bands at and above 50 MHz, wherever multiple-time-slot TDMA is authorized. The Petition asks the FCC to allow those amateurs who are presently using a Motorola narrowband (12.5 kHz) digital land mobile system -- commercially marketed as MotoTRBO -- to be used legally. Because of some restrictions in the Part 97 rules, the TDMA repeaters (which are multiple-time-slot devices) are legal, but the mobiles and portables are not because the emissions used (single-time-slot TDMA) are not authorized anywhere, due to the emission designator. Read more at www.arrl.org/news/arrl-files-em-petition-em-request-for-temporary-waiver-em-with-fcc-regarding-vhf-voice-and-data-e.

From *The ARRL Letter*, March 24, 2011

FCC SEEKING COMMENTS ON ARRL PETITION REGARDING TDMA

Earlier this month, the ARRL filed a Petition for Rulemaking and a Request for Temporary Waiver with the FCC, seeking authorization of the use of single-time-slot Time Division Multiple Access (TDMA) emissions in the amateur bands at and above 50 MHz, wherever multiple-time-slot TDMA is authorized. The FCC has designated the Petition as RM-11625 and is soliciting comments on it. Comments may be filed electronically and will be accepted until April 22.

Through this rulemaking, the ARRL seeks to facilitate the use of and experimentation by radio amateurs with existing narrowband spectrum-efficient digital voice and data technology. "Such technology is now in regular and increasing use in the private land mobile radio services, but its use in the Amateur Radio Service is now apparently unintentionally precluded by two specific Commission rules," the ARRL's Petition stated. The Petition asks the FCC to allow those amateurs who are presently using a Motorola narrowband (12.5 kHz) digital land mobile system -- commercially marketed as MotoTRBO -- to be used legally. Because of some restrictions in the Part 97 rules, the TDMA repeaters (which are multiple-time-slot devices) are legal, but the mobiles and portables are not because the emissions used (single-time-slot TDMA) are not authorized anywhere, due to the emission designator.

NIST TO CONDUCT TIME AND FREQUENCY USER SURVEY

The National Institute of Standards and Technologys (NIST) Time and Frequency Division is conducting a survey to learn more about its users, seeking to determine how the agency can make its services more useful in the future. NIST services include WWV, WWVH and WWVB, which provide reference time and frequency signals via radio. The NIST also provides the Internet Time Service -- which provides accurate time synchronization to computer systems -- and several other services to offer accurate time information via telephone or web pages. Radio amateurs are encouraged to complete the survey.

"If you use any of these services, we want to hear from you," said WWVH Electronic Technician Dean Takamatsu. "The survey should take just a few minutes to complete and your input will be greatly appreciated."

WWV and WWVB in Fort Collins, Colorado, along with WWVH on Kauai, Hawaii, broadcast continuous time and frequency information to millions of listeners worldwide. Information broadcast includes time announcements, standard time intervals, standard frequencies, UT1 time corrections, a BCD time code, geophysical alerts, marine storm warnings and Global Positioning System status reports.

The 440 Repeater Story

The refurbished W6UU 440 MHz (70 cm) repeater is now fully functional and will probably be back on the air by the time you read this. The new Kenwood UHF FM TKR-851 Repeater replaces the Motorola Micor repeater that's about 35 years old. Do the electrons care? Probably not, but the power amplifier failure a few months ago took our last working spare.

The repeater has been off of the air since February 20 when Lou (WA6QYS) and I removed the RC-96 Controller and the Telewave TPRD-4544 Duplexer so that I could integrate them with the TKR-851 at my place. Although the system isn't very complex, there were enough unknowns in the TKR-851/RC-96 interface that it seemed prudent to bring the equipment to the shop instead of the other way around. That turned out to be the right decision. The equipment was then temporarily installed in a small rack for integration and test as shown in Figures 1 and 2.

The TKR-851 has the basic functionality to operate alone as a legal repeater. However, the RC-96 adds additional features such as date and time announcements, signal strength reporting,

voice messages (535 word vocabulary), and autopatch/autodial capability. It can also control a second radio. The Telewave duplexer is required so that we can transmit and receive simultaneously on the same antenna on frequencies 5 MHz apart.



Fig. 1. Repeater components mounted in the test rack. From the bottom up, s-meter signal conditioner, Kenwood repeater, RC-96 controller and the duplexer.



Fig 2. Rear view of the test rack. The speaker, SWR meter and dummy load on the rack shelf are not part of the repeater.

The TKR-851 provides a signal strength output (RSSI) voltage and the RC-96 has a signal strength input circuit. The two are incompatible since the TKR-851 delivers 1.55 to 3.0 Vdc and the RC-96 expects 0 to 5 Vdc for S0 to S9+60dB. A simple op-amp circuit assembled on a Radio Shack perfboard (Figure 3) provides the translation of voltage gain and offset. With this in place, the RC-96 announces the signal strength when prompted.

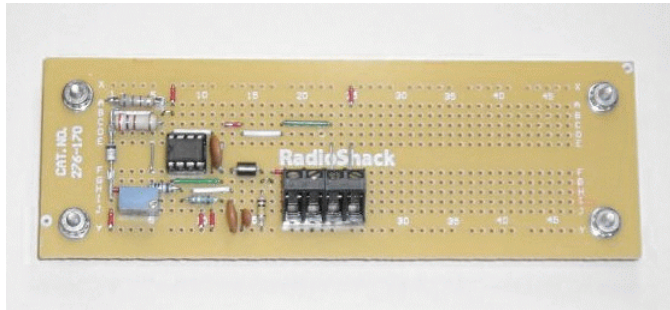


Fig. 3. The s-meter signal conditioning circuit is built on a Radio Shack perfboard.

Aside from providing the circuitry to handle the signal strength reporting, the other connections between the TKR-851 and the RC-96 are just wires. Wires that go between DIN connectors and DB-25 connectors or Molex connectors and whose function and voltage levels need to be understood and verified before the physical connection is actually made. All this takes time, of course.

The TKR-851 has 16 channels that can be individually programmed for different configurations. Much like many of our transceivers, this unit has only five buttons on the front panel and all the configuration information is buried in firmware. The unit, as ordered, was to have four of the channels preprogrammed per our requirements. Murphy struck when I discovered, with help from John Glass (NU6P) that "they" didn't bother to program three of the four channels. Further, the CTCSS-valid signal wasn't programmed to be present at one of the external connectors.

I'm smart enough to know when I'm in over my head, so I called on John Glass and on Rob Vance (N6ROB) for help since they have a lot of experience with similar Kenwood units. Two afternoons later they had the programming straightened out. It's good to have talented friends. Fortunately we (SCCARA) had already purchased the programming software and cable.

Someone (I think it was Larry, W2QOV) once told me that the way to estimate the time a ham radio project will take is to first estimate the time in hours, then double it, then change the units to weeks instead of hours. That seems to be pretty accurate.

Don - AE6PM

Meeting Minutes

General Meeting, March 14, 2011



Kaiser Hospital, 710 Lawrence Expressway, Santa Clara CA 95051 Status: Reviewed

The SCCARA General Membership Meeting was called to order by Don Steinbach AE6PM at 19:35.

Members and guests were introduced, including two newly licensed hams.

Announcements:

Mike KB6LCJ brought a mystery Show and Tell Object.

Lou WA6QYS had lots of news: SCCARA has the May flea market at DeAnza, but it is on the 3rd Saturday, May 21, not the 2nd. Let him know if you can help. There will be a demonstration Amateur Radio Station at the Stanford Powwow on Saturday May 7th. SCCARA is trying to get a better antenna at the Red Cross building; Greg and Lou picked up a Butternut Butterfly lightweight and are trying it out. The test site is Clark's house.

Lou also announced the next SVECS Quarterly Breakfast is April 30th at the Santa Clara Senior Center. Guest speaker Jeannie Stamberger with the Carnegie Mellon University Silicon Valley Disaster Management Initiative will give a presentation on emergency communications.

Don K6PBQ announced the club station at the Red Cross will be open the last Saturday March 26, for the CQ Worked-All-Prefix contest. He also mentioned that on the last Saturday of April, the club station will be open again coinciding with an in-house Red Cross exercise, which would be a good opportunity for us to interact with them. Also on April 30th, he needs help with communications for the MS Walk from 8am to 12 or 1pm along the Guadalupe River Trail: Wally KA6YMD has volunteered to be Net Control, Mike KB6LCJ for a rest stop, but more people are needed.

Gwen KF6OTD reminded us that next month's meeting is at the Hometown Buffet at Kiely and El Camino, in the back room at 6:30pm (note the time change!). Bring friends and relatives!

Chris Swarouth N6WCP provided some information on "the Great NARCC Frequency Grab", in which the board of NARCC is proposing to annex over half of a simplex band for digital repeaters. This action is apparently contrary to the wishes of the membership of NARCC, which is composed of repeater organizations (like SCCARA: Wally is our rep). Discussion was held. Gary WB6YRU moved that we adopt a position opposed to the NARCC plan; John W6JPP seconded; by a show of hands there were 27 ayes, 3 opposed. The board will take this under advisement.

Tom W6TJK suggested we send a message to NARCC to engage more forthrightly in dealing with new repeater groups.

Fred AE6QL announced that Field Day is the 4th weekend in June. Field Day preparations will be discussed in the May meeting. Also the SWR talk will be rescheduled for May.

Fred AE6QL gave a presentation on "How to Make PC Boards on the Cheap" with some background about PC Board construction and design, and free CAD programs to lay out your own. He gave a demo of expresspcb.

The Mystery Object turned out to be an extender card for an Illiac 4.

The meeting ended at 21:30.

Viki Moldenhauer, Secretary

Board Meeting, March 21, 2011



Red Cross Building, 2731 N 1st St, San Jose CA Status: Unreviewed

The SCCARA Board Meeting was called to order by Don AE6PM at 19:37.

Attendance: President: Don Steinbach AE6PM; Vice President: Fred Townsend AE6QL; Secretary: Viki Moldenhauer KI6WDS; Treasurer: John Altieri W6HW; Trustee: Don Village K6PBQ; Directors: John Glass NU6P, Gregg Lane KX6FNA, Gary Mitchell WB6YRU; Wally Britten KA6YMD;

Excused Absence: Director Lou Steirer WA6QYS

Announcements: Don AE6PM announced the SCCARA-gram inputs are due to Gary no later than March 28.

Treasurer's Report: checking = \$3244.73; savings = \$3847.03; cash = \$226.00. John W6HW paid ASVARO for the flea market fee.

Secretary's Report: The minutes for the February and March General Meetings and the February Board meeting were reviewed and corrected. Viki KI6WDS brought in a letter from the NARCC to the amateur community; reprinting it in the SCCARA-gram was discussed. Viki offered a demo of Bob Schwimmer's new database GUI, but this was declined due to time.

Vice President's Report: Fred AE6QL reported that in the effort to install PSK31 on the club radio at the Red Cross, wires broke in the control cable from the radio to the antenna. Fred is rebuilding the cable. He also has the club batteries (1 glass mat, 3 RV batteries). These are constantly charged, available for club use.

Old Business:

- PSK31 implementation: Some of Ned's cables have gone missing. George Williams from the Red Cross will preload PSK31 software onto the Red Cross computers at each station. Club members will meet again this Saturday to work on this.

- 70-cm repeater upgrade: the repeater is still in Don's shop. The S-meter circuit is working; there is an intermittent audio problem. ETA is 2 weeks. The plan is to put it on the air at Don's house so that it isn't offline too long.

New Business:

- 2M repeater antenna: Fred AE6QL has communicated to Chris what kind of antenna to get.

- 2M repeater MOU: Gary distributed a draft of the MOU; he will email it with the discussed changes to the board for further comments. John NU6P recommended we review the MOU, and see what happens with the replacement antenna.

- HF Beam: the Red Cross is open to us putting up a beam antenna. George Williams of the Red Cross has offered us a huge 40-foot 6-element antenna. We could put up a TV mast on the roof (with associated liability), or we could put up a tower bolted to the concrete out by the loading dock. In any event, people should be on the lookout for a free or cheap tower and/or rotator (a crank-up would be nice).

- flyers for the flea market: our weekend is not the usual weekend: we have May 21st (also Dayton Hamfest, and Maker Faire). Discussion was held about Gary WB6YRU making up flyers and a sign for the coffee table at the April flea market, and Greg KF6FNA taking flyers to HRO, to publicize the changed weekend.

Station Trustee's Report: Don K6PBQ announced the station would be open the last Saturday of the month to operate the CQ

Worked-All-Prefix contest.

Editor's Report: Gary WB6RYU reported that the last newsletter was paid for by the Staples Rewards Card!

N0ARY BBS Report: Gary WB6YRU has purchased the new antenna for the 6-M port but it is not installed yet due to weather. The plan is to temporarily tie it with ropes for testing, before permanently mounting it to the telephone pole.

Repeater Chairman's Report: Wally KA6YMD reports status quo.

Web Masters Report: Wally KA6YMD will check on archiving newsletters on the web site.

Other Board Members: Greg KF6FNA mentioned the lot where the trailer is parked is for sale; options were discussed.

Future Actions: The Fixit List still consists of the trailer (move axle, attach jack wheel, fix aux tail light); repair coax cables; add antenna rotator connectors; fix 2-M 300W preamp.

Don adjourned the meeting at 21:05.

Viki Moldenhauer, KI5WDS, Secretary

NARCC's SMC

To: Open Letter to all interested amateur radio operators
From: NARCC Spectrum Management Committee
Date: February 21, 2011

The Spectrum Management Committee (SMC) is a standing committee in NARCC. The committee is made up of representatives from all modes of communications used on frequencies above 29 MHz in Northern California, and the SMC has the task of ensuring that there is sufficient spectrum set aside for utilization by users of all modes, such as:

- 1) FM repeaters
- 2) Digital voice
- 3) Weak signal
- 4) Satellite communications
- 5) Packet
- 6) FM
- 7) AM
- 8) ATV
- 9) Moon bounce
- 10) And any other mode of communication that may be used in the furtherance of the amateur radio hobby.

The committee is charged with examining each band and making recommendations as to spectrum utilization, offset splits, repeater segments, auxiliary frequencies and other parameters within the scope of the amateur bands and FCC Part 97 rules in effect addressing frequencies above 29 MHz. The SMC shall ensure that adequate spectrum is allocated with a minimum amount of interference to other users

According to the NARCC Policy and Procedures Manual, a

document that governs how NARCC operates, the SMC shall review each band no less than once in any three (3) year period.

This open letter is written in the hopes of gathering those people interested in this very important mission who would like to get involved with the SMC and help us perform our task. We need folks from all segments of amateur radio activity above 29 MHz in Northern

California to contact us, and join in the process. Your voice should be heard, and we welcome all interested parties who have a positive attitude toward moving spectrum management forward, and who have a genuine desire to help us make sure everyone and every known mode of operation is represented.

The SMC is comprised of basically three groups:

1) Those people in our Yahoo Chat Group, of which there are 67 at the present time, who are interested in helping to shape our recommendations on Spectrum, who interact by posting and commenting on the SMC Yahoo Group;

2) Those people in our Webinar Meeting Group, which meets every third Sunday afternoon at 4:00 PM for a 1 1/2 hour VoIP meeting, and average 8 at the present time. This meeting is where most of the activity is found by those seriously involved in the SMC;

3) Those people who do not necessarily want to participate in the activities of the SMC, but want to stay apprized of our activity because the outcome may affect their areas of interest in the hobby;

Please contact the Chairman of the Spectrum Management Committee, Shorty K6J5I at spectrum@narcc.org if you would like to participate in any of the above venues, and help us deal with the issues we are facing, and participate in the solution.

Your opinion is important to our moving forward with the goal of helping to make a better amateur radio hobby, serving all of our needs. Please get involved and become part of the solution. Your voice counts, and we want to hear it.

{NOTE: Only those who own or operate a NARCC coordinated repeater are eligible to be a voting member in NARCC, including their SMC. Everyone else may only advise, you don't have a vote. This means NARCC can not be a truly representative organization. It should also be noted that there are others who do band planning, such as the NCPA. SCCARA is not necessarily endorsing NARCC's SMC, the board merely wishes to publish this letter for those who are interested. - Ed}

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 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.

Antennas, feed-lines, tuners: WB6EMR, 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: WB6EMR, K6PBQ
DX (long distance/propagation): WB6EMR
Emergency operating/preparedness: WA6QYS
HF operating techniques (SSB, CW): WB6EMR, K6PBQ
Legal/FCC rules: WB6YRU
SCCARA (club inner workings): K6PBQ, WB6YRU, WA6QYS
EchoLink: KK6MX

WB6EMR, James D. Armstrong, Jr.,
evening & msg: (408) 945-1202

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 NOARY
e-mail: wb6yru@ix.netcom.com

Newsletter Notes

If you're one of the few who haven't heard, NARCC, the repeater coordinator, has decided they need more room for repeaters in the two meter band and that space should come from half each of the two FM simplex segments.

Quite understandably the FM simplex users (and many others) are up in arms saying oh no you don't.

This is probably what lead to NARCC's attempt to gain support by sending out letters to clubs asking for participation in their spectrum management committee. It's important to know that their committee reports to their board of directors, who has the final say. If you want to join their discussion groups, they are narcc@yahoogroups.com and narcc-spectrum@yahoogroups.com

It should also be noted that according to their letter, NARCC claims to speak for all other modes. But digital has been managed in this region by the NCPA for some 25 years. AMSAT controls satellite activity and they follow the ARRL band plan, as does weak signal and Moon bounce. Those groups by their nature cover national or world wide activity and do not recognize local band plans.

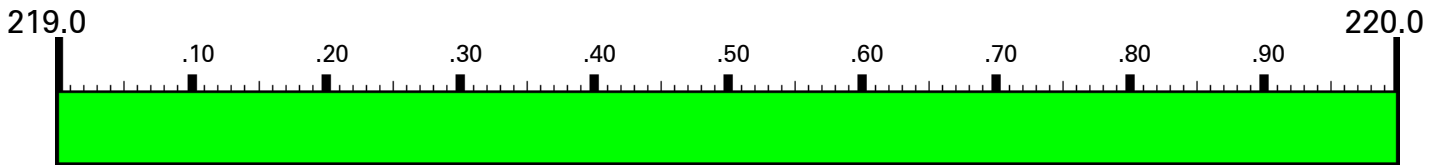
Activities that don't involve repeaters are not likely to look to a repeater coordinator for band plans. They tend to use the national band plans by the ARRL. This is part of the reason the NCPA has been adopting the ARRL band plans where possible. Their charts (being printed in the *SCCARA-GRAM*) follow the ARRL plan except where specifically noted in the 2 M and 70 cm bands.

73, Gary WB6YRU, editor

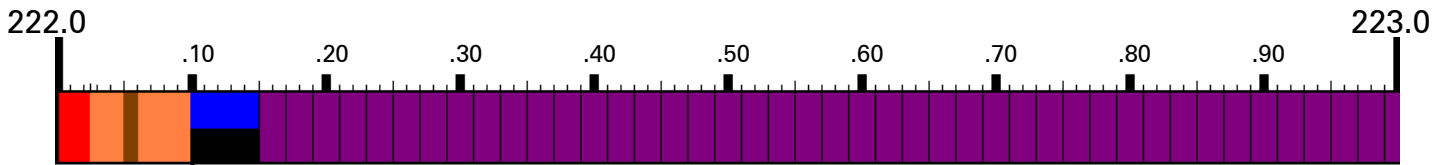
1.25 meter Band Plan for Northern California

219.0 - 220.0 MHz

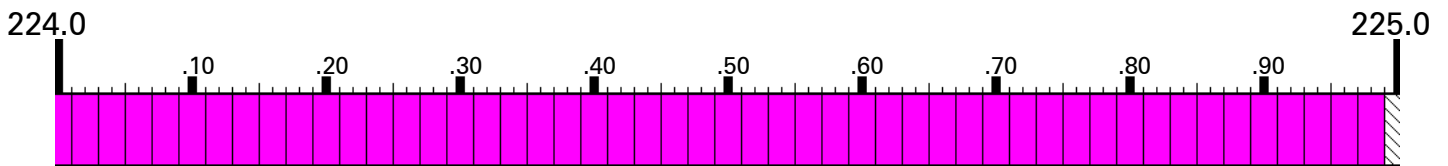
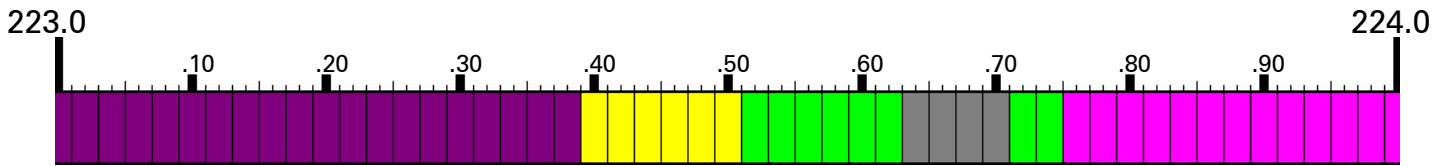
222.0 - 225.0 MHz













Forwarding only. Must be coordinated. Permission from AMTS Coast Station required, see FCC 97.305(e)



222.10 CW and SSB calling



	Beacon		Links and Control
	CW		Repeater Input
	Digital		Repeater Output
	Earth-Moon-Earth (EME)		SSB
	FM Simplex		Weak Signal

20 kHz channel spacing

For general Amateur Radio, see ARRL (www.arrl.org)

For repeaters, see NARCC (www.narcc.org)

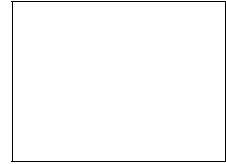
For satellites, see AMSAT (www.amsat.org)



SCCARA

Santa Clara County Amateur Radio Association
PO Box 6
SAN JOSE CA 95103-0006

Affiliate of the ARRL,
American Radio Relay League



FIRST CLASS

ADDRESS SERVICE REQUESTED

SCCARA Membership Form for 2011

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

Name: _____ Call: _____ 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: _____

Memberships begin January 1 and expire December 31.

If renewing: annual membership dues (base rate) are: \$20 Individual, \$25 Family, \$10 Student (under 18)

For new members:

If joining in January: base rate

If joining in February through October: base rate x (11 - month) x 10% (e.g. for June, that would be: base rate x 50%)

If joining in November or December: free for November and December if paying the base rate for the following year

\$ _____ **Dues payment for:** individual family student

For family memberships (at the same address), please include a separate form for each family member.

I want the newsletter by: U.S. Mail internet (make sure your e-mail address is legible and correct)

Give this completed form (or copy) with payment to the Secretary or Treasurer at any meeting or mail to the club address.